INTRODUCTION

VOLUME 3 USER'S MANUAL

This Volume comprises the following:

1 A synopsis of the key issues that emerged from the planning process, //Khara Hais IDP, and the maps and data provided by the Siyanda Environmental Management Framework. These key issues were categorised into five integrated programs in order to facilitate coherent planning and implementation. Figure 1 illustrates the various programs.

2 The five integrated programs are to be implemented through a host of strategies and projects which collectively give effect to the vision and overarching goal statements of //Khara Hais Municipality. These strategies and projects identified for each program and/or subprogram were arranged in separate tables that comprise the following:

a) Key issues.

b) Strategies for addressing each key issue.

c) The IDP project number (if it is already identified and listed in the IDP as a project) to serve as a direct link between the IDP and the SDF, enabling constant updating of the SDF and to facilitate the prioritization of actions.

d) The institution responsible for the implementation of the project and/or strategy. It is important to note that the Municipality will not be solely responsible for implementing the strategies. Effective integrated development planning and management requires innovative forms of institutional integration and social co-operation. Dialogue amongst all interested parties, participatory planning and institutional flexibility are, therefore, essential to plan and manage //Khara Hais effectively.

This Volume should be read together with the preceding Volumes, especially Volume 2, which puts forward fundamentally important spatial planning and development directives.

1 INTRODUCTION

1.1 INTEGRATED DEVELOPMENT AND MANAGEMENT PROGRAMS

As stated above, the key issues that emerged from the planning process, //Khara Hais IDP, and the maps and data provided by the Siyanda Environmental Management Framework were categorised into five programs. In order to facilitate coherent planning, the various programs were addressed separately in the chapters below.

A program is defined as a strategic cluster of related activities that together achieve a specific goal. Collectively these programs are the 'mechanisms' through which the goals and objectives of //Khara Hais Municipality and the local community will be achieved. The various programs are:

- Program 1: Environment
- Program 2: Development
- Program 3: Economic Sectors
- Program 4: Social Development
- Program 5: Municipal Management

As illustrated by the figure below, the various programs will be undertaken within the parameters posed by the three imperatives for sustainable development (i.e. environmental integrity, human well-being, and economic efficiency).

Figure 1: Integrated Development and Management Programs.

1.1.1 KEY ASPECTS THAT EMERGED FROM THE IDP AND SDF PLANNING PROCESS

The key aspects that emerged from //Khara Hais IDP and SDF planning process are listed in Table 1 below. The table also indicates in which chapter the various aspects have been addressed and what strategies have been proposed for each aspect. It is important to note that some of these aspects have not been addressed in specific terms, but that broad guidelines have been provided that address those aspects together with similar aspects or categories.

Table 1: Key aspects that emerged from the IDP and SDF planning process.

NO	ASPECT	RELEVANT CHAPTER & STRATEGIES
1	Poverty & Unemployment	Key Issue No. 2.2(c)(i); Key Issue No. 6.3(a)(i); Key Issue No. 6.3(a)(iii); Key Issue No. 6.3(a)(iv); Key Issue No. 6.3(b)(iii); Key Issue No. 6.3(c); Key Issue No. 7.7(a)(i); Key Issue No. 7.7(b)(ii); Key Issue No. 7.7(d); Key Issue No. 8.2(a)(ii) and Key Issue No. 9.2(a)(i)
2	Housing, Town Planning & Land use Management	Key Issue No. 2.2(b)(i); Key Issue No. 4.3(a)(i); Key Issue No. 4.3(a)(vii) and Key Issue No. 4.3(b)(iv)
3	Road & Transport Infrastructure	Key Issue No. 4.3(d)(ii); Key Issue No. 4.3(d)(iv); Key Issue No. 4.3(d)(v) and Key Issue No. 5.2(a)(vi)
4	Sewerage & Sanitation	Key Issue No. 4.3(e)(ii); Key Issue No. 4.3(f)(i) and Key Issue No. 5.2(a)(vi)
5	Electricity	Key Issue No. 4.4(g)(i); Key Issue No. 4.4(g)(ii) and Key Issue No. 5.2(a)(vi)
6	Water	Key Issue No. 4.e(e)(i) and Key Issue No. 5.2(a)(vi)
7	Increase in HIV/AIDS	Key Issue No. 5.2(a)(vi) and Key Issue No. 9.2(b)(i) and Key Issue No. 9.2(b)(iii)
8	Lack of Sport, Park & Recreation Facilities & General Appearance of Towns	
9	Lack of Sufficient Health Facilities & Other Services to all Communities	Key Issue No. 5.2(a)(vi) and Key Issue No. 9.2(b)(iv)
10	Communication Gaps & Community Facilities	Key Issue No. 9.2(b)(ii); Key Issue No. 9.2(c)(i) and Key Issue No. 9.2(d)(i)

1.2 TYPES OF STRATEGIES AND PROJECTS

Although an SDF, per definition, essentially addresses the spatial implications of the IDP, it is recognised that holistic governance and management of any area (as is contemplated for //Khara Hais Municipality) will also require the implementation of strategies that do not have any spatial implications.

The inclusion of strategies for aspects with no spatial implications implies that the SDF could also serve as a management framework for //Khara Hais.

PROGRAM 1: ENVIRONMENT

CHAPTER CONTEXT

The structure of the chapters covering the *Environmental Program* is as follows:

Sub-Program 1: Protected Nature Areas & Conservation-Worthy Areas

Sub-Program 2: Natural Resources:

- Rocks, Soils and Minerals
- Water
- Flora
- Fauna

2 PROTECTED NATURE AREAS AND CONSERVATION-WORTHY AREAS

//Khara Hais comprises a number of important habitats and habitat units, including Kalahari Karroid Shrubland, Southern Kalahari Salt Pans, Lower Gariep Alluvial associated with the Gariep River, etc. Only a small percentage of these areas has been included into statutory conservation areas (refer to Chapter 6 of Volume 1).

The main functions and values of the natural areas are to:

a) Maintain representative and viable samples of the full range of natural ecosystems and biodiversity - the natural heritage of all people and of future generations.
b) Maintain life-support systems that provide the communities of //Khara Hais Municipality with ecosystem services, such as a sustainable flow of high-quality water.
c) Provide essential insurance (buffers) against inevitable mistakes in land management and resource utilisation.
d) Provide opportunities for contact with nature ('maintaining a link with the land'), and associated opportunities for outdoor recreation and environmental education.
e) Provide a 'sense of place' to all people (state owned conservation areas are virtually the only parts of the country that all South Africans can call their own).

There is concern that these areas of conservation importance are not adequately protected. It is consequently proposed that a system of protected nature areas, eco-corridors and urban green areas be established, which includes portions of privately-owned land.

In order to achieve integrated management of conservation-worthy areas throughout //Khara Hais and the adjacent municipalities it is imperative that close collaboration be established between

the Siyanda District Municipality (SDM), the relevant local municipalities (including //Khara Hais Municipality) and the Northern Cape Department of Tourism, Environment and Conservation (DTE&C).

It is important that the *Siyanda Environmental Management Framework* (refer to Chapter 14.5.2 of Volume 1 and Plan 17 attached under separate cover) initiated by the Department of Environmental Affairs and Tourism (DEAT), the DTE&C and SDM be implemented on a partnership basis under the auspices of the SDM and the relevant local municipalities, and as part of the IDP process.

2.1 VISION

The following vision was set for the conservation of natural habitats in //Khara Hais:

Conservation-worthy natural areas are to be consolidated into continuous tracts of conservation land, protecting natural biodiversity and providing community-supporting ecosystem services.

2.2 STRATEGIES

Table 2 below summarises the recommended strategies for nature areas (SPC A.a, B.a and B.b) in //Khara Hais Municipality.

Table 2: Nature Area Strategies.

KEY ISSUE NO. 2.2 (a): INCREASE AND CONSOLIDATE PROTECTED NATURAL AREAS			
OBJECTIVE:	Extend statutory conservation status to at least 5% of //Khara Hais Municipality.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Establish protected nature areas in conservation-worthy habitats as indicated by **Plan 3** and Siyanda EMF.	/	DTE&C in collaboration with //KHM and land owners.
(ii)	Establish a network of protected nature areas, eco-corridors and urban green areas throughout //KHM (refer to **Plan 3**).	/	"
(iii)	Investigate the possibility of extending Spitskop Nature Reserve to include portions Erf 17574 (refer to **Plan 3**).	/	"
(iv)	Establish conservancies to include all conservation-worthy areas and ecological corridors as directed by the Siyanda EMF (**refer to Plan 17**).	/	DTE&C in collaboration with //KHM and land owners. "

KEY ISSUE NO. 2.2 (b): MANAGEMENT OF PROTECTED NATURAL AREAS			
OBJECTIVE:	Conserve the ecological and social integrity of natural areas and provide a broad spectrum of compatible outdoor recreational opportunities.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Prepare and implement an *Environmental Management Plan* for the Spitskop Nature Reserve.	/	//KHM in collaboration with DTE&C.
(ii)	Draft and implement a municipal Environmental Management Framework as part of the SDF. **(Refer to Strategy No. 2.2 in //Khara Hais IDP [2007-2012] for priority projects already identified).**	No. 2.2	//KHM.

KEY ISSUE NO. 2.2 (c): PUBLIC INVOLVEMENT			
OBJECTIVE:	Ensure constructive public involvement in environmental conservation.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Institute integrated environmental education. **(Refer to Strategies No. 1.3 & No. 1.5 in //Khara Hais IDP [2007-2012] for priority projects already identified).**	No. 1.3 & No. 1.5	DTE&C, SDM and //KHM.

KEY ISSUE NO. 2.2 (d): PROTECTION OF GARIEP RIVER			
OBJECTIVE:	Ensure long-term protection of the natural watercourse of the Gariep River, its associated riparian area & wetlands and natural waterbodies.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Prepare and institute a management plan for the Gariep River which includes measures to improve or, at least, maintain the current state of the river. The management plan must also include a recreational plan.	/	DWAF, DTE&C, SDM, //KHM & Irrigation Boards.
(ii)	Undertaken and sustain research particularly with regard to the distribution and occurrence of species within natural water bodies, and biological processes such as fish reproduction and migration.	/	DWAF, DTE&C, SDM, //KHM & Irrigation Boards.

3 NATURAL RESOURCES

It is recognised that human activities are progressively reducing the intrinsic community-supporting capacity of //Khara Hais. Natural resources essential for sustainable development are increasingly being destroyed or depleted. At the same time human demand for these resources is increasing.

It is envisaged that if current rates of land degradation and resource utilisation continue, the natural resources of //Khara Hais could come under serious pressure. This, in turn, could have a serious effect on development and, subsequently on the well-being of the people of the area.

In //Khara Hais the natural resources are particularly valuable, with all the community-supporting sectors being almost totally dependent on them. Resource conservation therefore has a particularly strong socio-economic connotation. This implies that resource conservation needs to be applied as a fundamental element in all sectors, guiding decision-making in respect of development and land use.

3.1 VISION

The following vision was set for the protection of the natural resources of //Khara Hais:

Natural resources must be acknowledged and conserved as fundamental requirements for sustainable development in //Khara Hais Municipality.

3.2 ROCKS, SOILS AND MINERALS

Soil conservation in //Khara Hais Municipality is generally not of the required standard. Inadequate control over urban and rural development, indiscriminate agricultural practices and mining together with the predominantly arid character of the area result in substantial losses of topsoil and land degradation in general. Desertification as a result of localized overgrazing leads to vegetation loss and is also strongly linked to poverty and food security as a result of the social and economic importance of natural resources and its agricultural significance for especially the rural communities.

A number of mineral deposits occur throughout //Khara Hais, including zinc, salt, lead, chrysolite, copper and nickel. A high concentration of a variety of mineral deposits occurs in the south-western portion of //Khara Hais. Some mineral deposits have not yet been exploited including stone aggregate, gravel, barites, zinc, nickel, copper and sulphur (in pyrite) (Siyanda EMF, 2007[1]).

3.2.1 STRATEGIES

Table 3 summarises the recommended strategies in respect of rocks, soils and minerals in //Khara Hais Municipality.

[1] EnviroNomics 2007: *Siyanda Environmental Management Framework: Draft Status Quo Report (August 2007)*: Department of Environmental Affairs and Tourism, Northern Cape Department of Tourism, Environment & Conservation, and Siyanda District Municipality

Table 3: Soils and Minerals Strategies.

KEY ISSUE NO. 3.2 (a): MINING REGULATION			
OBJECTIVE:	Regulate the exploitation and utilisation of all geological and mineral resources to limit ecological and aesthetic damage.		
STRATEGY		**IDP**	**RESPONSIBLE INSTITUTION**
No.	**Description**	**PRJ NO**	
(i)	Regulate mining and land development in accordance with the Land Use Plan (Plan 4).	/	//KHM & Dept of Agriculture, Dept of Minerals and Energy.
(ii)	Institute compulsory IEM and EIA prior to opening of any new pits in terms of the Minerals Act 50 of 1991.	/	Dept of Minerals and Energy Affairs & //KHM.
(iii)	Institute regular monitoring and auditing of borrow pits.	/	//KHM.

KEY ISSUE NO. 3.2 (b): SOIL CONSERVATION			
OBJECTIVE:	Regulate the exploitation and utilisation of all geological and mineral resources to limit ecological and aesthetic damage.		
STRATEGY		**IDP**	**RESPONSIBLE INSTITUTION**
No.	**Description**	**PRJ NO**	
(i)	Impose and monitor soil conservation programs in all sectors.	/	Dept of Land Affairs, Dept of Agriculture.
(ii)	Institute soil and crop management / monitoring.	/	"
(iii)	Institute rehabilitation and stabilisation along the banks of the Gariep River.	/	DWAF, Dept of Land Affairs, Dept of Agriculture.
(iv)	Rehabilitate soil erosion sites.	/	Dept of Land Affairs, Dept of Agriculture.
(v)	Draft and institute appropriate rehabilitation plans in respect of each development.	/	Landowners and //KHM.
(vi)	Institute programs for managing indigenous and alien vegetation, including regular monitoring along the banks of the Gariep River and its main tributaries.	/	DWAF, Dept of Land Affairs, Dept of Agriculture
(vii)	Control all alien plant infestations.	/	DWAF, Dept of Agriculture, DTE&C landowners.
(viii)	Introduce Working-for-Water projects throughout //KHM.	/	"
(ix)	Regulate grazing in accordance with appropriate ecological carrying capacity levels in SPC C areas.	/	Dept of Agriculture, landowners.

3.3 WATER

Water is the most critical natural resource in //Khara Hais Municipality. All the sectors and communities are dependent on a sustainable supply of water from mainly the Gariep River, as well as sub-quarternary catchments and subterranean aquifers.

The importance of the water resource must be considered within the context of South Africa's predominantly semi-arid climate. The availability of water is, therefore, the most critical factor in the sustained development of especially the Northern Cape and in particular //Khara Hais. The region is characterised by a harsh climate with minimal rainfall and prolonged droughts, which is sometimes terminated by severe flooding. Although rainfall usually occurs during late summer to autumn, the region experiences the lowest mean annual rainfall in the country, with potential evaporation generally several times higher than rainfall. Due to the lack of surface water in many areas, ground water is an important resource and in some areas is the only source of water for consumption.

The overriding objective of water conservation is the management of the catchment areas[2] and the maintenance of the natural *water cycle*[3] so as to maintain an optimal sustainable yield of high quality water. Maintenance of water yield entails ensuring the capacity of a catchment area to yield water at historical flow rates.

Land-use patterns largely influence the maintenance of water yields. Interference with the natural conditions in catchment areas, e.g. draining, canalising or cultivating areas such as seepage areas, riparian areas and stream-bed alluvium, over-exploitation of natural vegetation and the uncontrolled spread of alien vegetation is detrimental to the proper functioning of a river system.

The availability of water also holds the key to the settlement of emergent or small farmers. It is paramount for proposed new developments to be considered in a bioregional context in terms of (a) water availability, (b) environmental requirements, and (c) overall viability of the proposed scheme.

In terms of the National Water Act 36 of 1998, land use planning and regulation should be used as an *instrument* to manage water resources. This document will, therefore, have a critical role in ensuring the appropriate management of the water resources of the region.

3.3.1 STRATEGIES

Tables 4 on the following page summarises the recommended strategies in respect of water management.

[2] ***Catchment*** (or catchment area) is defined as the entire land area from which water flows into a river; catchments can be divided into smaller 'sub-catchments' which are usually the area which drains a tributary to the main river or a part of the main river.

[3] The ***Water (hydrological) cycle*** describes the natural process of moving water out of the oceans, into the atmosphere, and back to the land and oceans.

Table 4: Water Management Strategies.

KEY ISSUE NO. 3.3 (a): NEW IRRIGATION SCHEMES			
OBJECTIVE:	Establish viable and sustainable new irrigation schemes to facilitate sustainable agricultural development.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Investigate recommended construction of a balancing dam as indicated on **Plan 16** to provide irrigation water to the canal system during peak demand.	/	DWAF & //KHM.

KEY ISSUE NO. 3.3 (b): CONSERVE THE GARIEP RIVER			
OBJECTIVE:	Ensure appropriate management of the Gariep River as the mainstay of all economic activities in the region.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Establish CMA (Catchment Management Agencies) in terms of the National Water Act 36 of 1998.	/	DWAF, irrigation board, //KHM.

KEY ISSUE NO. 3.3 (c): NEW IRRIGATION SCHEMES			
OBJECTIVE:	Establish viable and sustainable new irrigation schemes to facilitate sustainable agricultural development.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Explore groundwater resources. Undertake thorough hydrological studies as part of the IDP process to determine water requirements.	/	DWAF & //KHM.
(ii)	Quantify effect of new irrigation schemes on streamflow dynamics, future down-stream development, and water quality.	/	DWAF.

3.4 FLORA

3.4.1 STRATEGIES

Table 5 on the following page summarises the recommended strategies for flora conservation.

Table 5: Flora Conservation Strategies.

KEY ISSUE NO. 3.4 (a): SPECIES DIVERSITY			
OBJECTIVE:	Conserve the diversity of plants that are indigenous to the region at species, population and community level.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Conserve sensitive plant habitats. Refer to **Plan 3** and the Siyanda EMF **(refer to Plan 17)**.	/	DTE&C, SDM & //KHM.

KEY ISSUE NO. 3.4 (b): CONSERVING SPECIES DIVERSITY			
OBJECTIVE:	Conserve the diversity of plants that are indigenous to the study area at species, population and community level.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Institute research programs to identify sensitive habitats & develop and institute appropriate management plans for each sensitive habitat.	/	DTE&C in collaboration with SDM and //KHM.
(ii)	Appoint Work for Water to assist with the eradication of alien plants along the Gariep River.	/	DTE&C, DWAF and landowners.

3.5 FAUNA

//Khara Hais Municipality comprises areas that are of immense importance for the conservation of animal species. In this regard, reference is made to, *inter alia*, the following:

a) The Gariep River and the dry riverbeds of non-perennial tributaries are important habitats for a variety of indigenous fish species, bird species and insects.

b) Spitskop Nature Reserve is seen as a sanctuary for a number of especially larger animal species which historically occurred in the area.

3.5.1 STRATEGIES

Table 6 summarises the recommended strategies for flora conservation.

Table 6: Fauna Conservation Strategies.

KEY ISSUE NO. 3.5 (a): CONSOLIDATING AND EXTENDING HABITATS			
OBJECTIVE:	Consolidate and extend the natural habitats of the indigenous animal communities of the region.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Consolidate Spitskop with portions of Erf 17574 (refer to **Plan 3)**.	/	DTE&C & //KHM.

(ii)	Create integrated conservation area along northern and eastern boundary of Upington (refer to **Plan 3)**.	/	"

KEY ISSUE NO. 3.5 (b): HABITAT CONSERVATION			
OBJECTIVE:	Conserve and extend the natural habitats of the indigenous animals of the region.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Institute research to locate and categorise sensitive or threatened habitats.	/	DTE&C & //KHM.

KEY ISSUE NO. 3.5 (c): ANIMAL SPECIES DIVERSITY			
OBJECTIVE:	Conserve the diversity of animals that are indigenous to //Khara Hais at species, population and community level.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Re-introduce species that historically occurred in the region.	/	DTE&C, landowners & //KHM.

PROGRAM 2: DEVELOPMENT

CHAPTER CONTEXT

The structure of the chapters covering the *Development Program* is as follows:

Sub-Program 1: Urban Development

Sub-Program 2: Rural Development

4 URBAN DEVELOPMENT

The urban environment of //Khara Hais Municipality has immensely important spatial and economic implications. It is, therefore, of paramount importance, that an 'urban development strategy', be drafted and implemented within the context set by this document.

Due to South Africa's status as a developing country, both the public and the private sector generally agree that the promotion of sustainable development should be a priority in the quest to address the socio-economic and environmental challenges facing the country. However, when one considers the reality of inappropriate development types, misuse of natural resources, general inefficiency of service provision, etc., which is evident throughout the country, serious questions arise regarding the manner in which development is often undertaken in practice.

An evaluation of urban space in the region reveals that many urban settlements are devoid of the endearing qualities that characterise historic settlements. The primary negative characteristics are the following:

a) A general lack of charming urban streets, square buildings and places, which provide the characteristic structure of historic places.

b) Existing buildings generally do not play any positive role in giving the urban space a particular quality. Institutional buildings, such as churches, municipal offices and business buildings are scattered throughout the towns without any evidence of an understanding of the important role such buildings should play in providing status to the various types of urban space and how they should help define and shape specific types of public places (e.g. town squares and streets).

c) There is generally no evidence of a well-defined town or settlement border that provides a recognisable inside-outside relationship and a sense of enclosure.

d) The urban edges of the settlements and their main entrances are, generally, ill-defined and weak, without a sense of a 'gateway'.
e) With the exception of some attempts to copy and clone 'regional building styles', there is little evidence of successful integration of the characteristic qualities of the built heritage of the region into new development.

The primary objective of urban planning and development should be to shape the human-made environment in order to enhance the quality of life of the habitant communities. Requirements for sustainable urban development include the following:

(i) Integrate urban and rural planning (align urban land use planning with bioregional planning).
(ii) Contain urban sprawl (urban sprawl implies higher per capita cost of providing essential services and loss of valuable agricultural or natural land).
(iii) Restore and maintain a specific character or sense of place (urban areas must reflect the culture-historical character of the area and its people and unique local land uses).

Property development can serve as a primary economic driver that unlocks funds to support, in a meaningful and sustainable manner, economic growth, social development, environmental rehabilitation and urban restructuring. Development can however only be optimised through **positive economic intervention** within a framework of an **integrated development plan and strategy**, i.e. //Khara Hais SDF (refer to Chapter 4.2 and the Sustainable Development Initiative as a development strategy as summarised in Chapter 12.2 below).

For the overarching objectives and guidelines regarding urban development please refer to Section D of Volume 1: Planning and Design Framework and Volume 2 and the *Sustainable Development Initiative* as a development strategy as summarised in Chapter 12.2 below.

4.1 VISION

The following vision was set for the development of the urban areas of //Khara Hais:

Establish a safe, healthy and aesthetically pleasing urban environment, with the architectural and spatial character depicting the historic and cultural background of the habitant communities.

4.2 DEVELOPMENT OF STRATEGIC VACANT LAND

As mentioned in Chapter 2.1 of Volume 2, the SDF builds on the premise that public land within //Khara Hais is a primary resource with huge latent value and that this value should be unlocked in a sustainable manner to the extent possible.

Such public land *inter alia* holds the key to achieving the vision, goals and objectives set for //Khara Hais, in particular, as it relates to social integration, eradication of poverty and equality.

As a first step an analysis of all public and parastatal land and its current status was undertaken and an inventory of all the vacant properties was drafted. The Vacant Land Analysis (refer to Chapter 2 of Volume 2 and Plan 1 and 1.1 – 1.10) identified a number of strategic sites that could provide ideal investment opportunities through public-private-community partnerships (refer to

Figure 2 below and Chapter 4.2.1 for a description of possible development options for each strategic site).

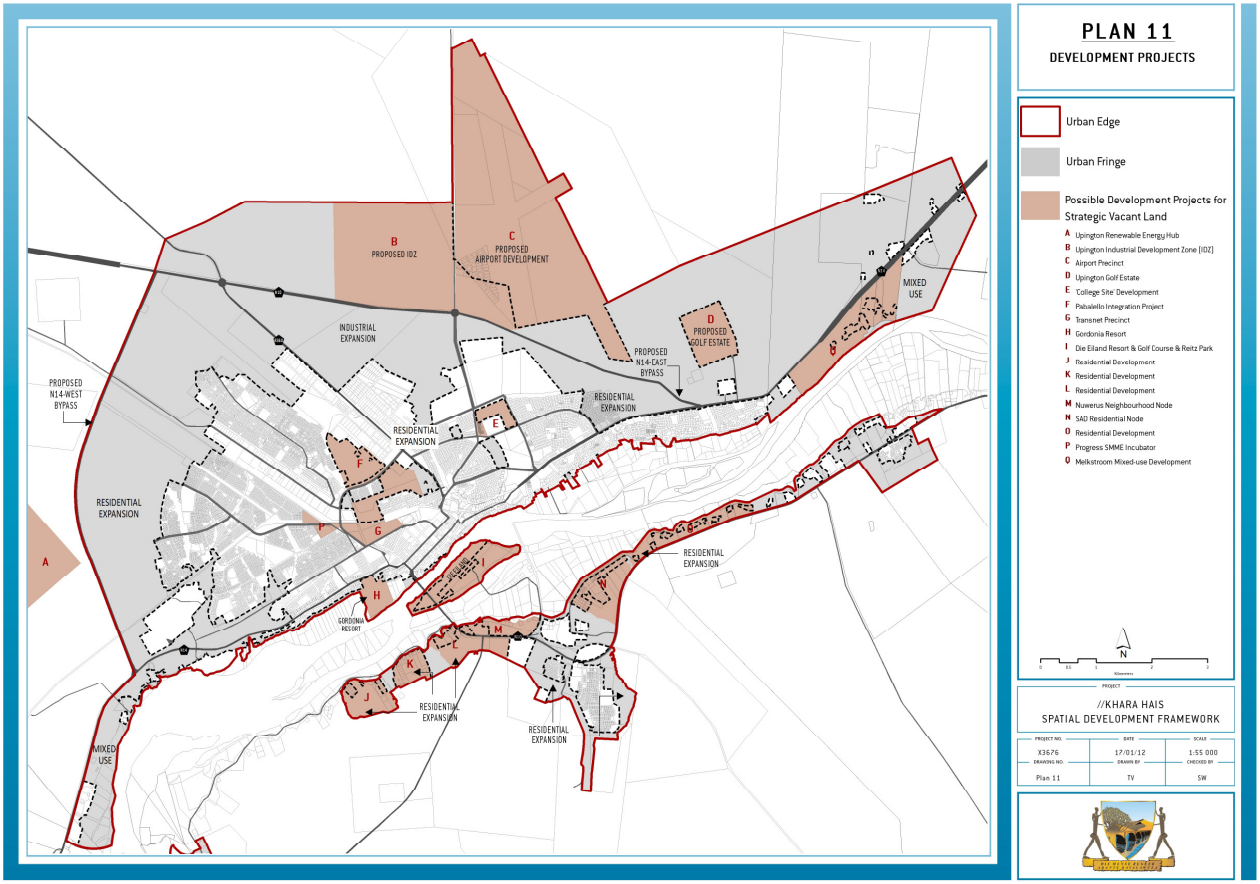


Figure 2: Possible Development Projects for Strategic Vacant Land.

4.2.1 POSSIBLE DEVELOPMENT PROJECTS

The sections below provide the general development parameters applicable to every strategic site. These parameters are to guide the detailed project planning for every site and not prescribe to the potential developer(s) what their project proposal should entail. The detail of each development proposal will ultimately be determined by current trends in terms of the macro-economics, property and tourism market of the region, and the market potential of the particular site based on supply and demand factors.

Developers must however take these development parameters together with the principles and guidelines summarized in Section D of Volume 2: Planning and Design Framework into consideration when planning and designing development projects. If development proposals were considered inconsistent with these principles, //Khara Hais Municipality will inform the applicant about the inconsistency and the avenues to be explored to find appropriate solutions.

It is also important to note that the mere fact that Sites A to N has been identified as strategic sites with huge development potential does not exempt the development of these sites from the mandatory development application and environmental processes (i.e. Scoping and EIA) prescribed by legislation.

The sites located on the southern side of the Gariep River (i.e. Site I, J, K, L, M and N) have been assessed by KV3 with regard to the bulk service demand (refer to Chapter 4.2.2 below) and general engineering aspects. The assessment revealed that the geology and topography of the area east of the N10 make these sites more ideal for development, especially business orientated development, than the area west of the N10. A phased approach to the development of the area south of the Gariep River is therefore proposed, starting with Site N, M and L. The development of Sites K and J must be undertaken as a second phase, while Site I should only be developed as a last development option due to high financial implications associated with the underlying geology.

Project A: Upington Concentrated Solar Power Plant

The Upington Concentrated Solar Power (CSP) Plant is to be constructed on the approximately 14 687 ha of the Farm 1080 (Olyvenhoutsdrift Settlement), Farm Klip Kraal No. 451 and a portion of Erf 1, Upington. The CSP plant will be the first major social energy initiative on the African continent and will be constructed by ESKOM as part of its capacity expansion program. It is expected that the CSP plant will have an estimated generating capacity of 100MW.

The plant will include all equipment and other miscellaneous infrastructure associated with the generation, transmission and distribution of electricity. Such infrastructure includes, but is not limited to:

- Workshops and stores;
- Offices;
- Site canteen;
- Medical station;
- Fire station;
- A tourist facilitation centre;
- Ambulance garage;
- Compressor house buildings;
- Water supply infrastructure;
- Guard house and accommodation; and
- Recreational facilities for personnel.

Project B: Upington Industrial Development Zone

The Upington IDZ (± 400 ha) will be a purpose-built industrial estate linked to the Upington Airport. The IDZ will leverage fixed direct investments in value added and export-oriented manufacturing industries. The IDZ intends to promote the competitiveness of the manufacturing sector and to encourage beneficiation of locally available resources.

The following benefits are generally associated with such an incentive scheme:

a) A Customs Controlled Area (CCA) with dedicated South African Revenue Services (SARS) officials to provide support for customs and VAT requirements.
b) World-class industrial support infrastructure.
c) Links to an international port of entry (Upington Airport was recently declared an international Port of Entry).
d) Duty suspension on imports for production-related raw materials, including machinery and assets used in production with the aim of exporting the finished products.
e) VAT exemptions under specific conditions for supplies procured in South Africa.

Project C: Airport Precinct

The proposed Upington IDZ will be enhanced by the upgrading and extension of the terminal building together with the envisaged development of a *Cargo Hub* and *Aircraft Maintenance and Storage Facilities*, commonly known as 'mothballing'.

The ACSA terminal building upgrade and extension is a R27 million project which include a two-storey terminal building with offices located on the first floor and the provision of a removable screen to separate simultaneous domestic and international arriving passengers, should the need arise. It is envisaged that the project will be completed in the last quarter of 2009.

The terminal upgrade will also include essential infrastructure associated with the cargo hub. Provision is made for a hotel (± 10 000 m^2), filling station and truck stop (± 15 000 m^2), offices (9 sites totalling ± 4 ha) and warehouses (44 sites of ± 4 800 m^2 each). Approximately 28 ha will be developed for mothballing.

Project D: Upington Golf Estate

Approximately 56 ha surrounding the existing golf course could be developed as a golf estate. It is proposed that the development be characterized by a number of residential nodes of no more than 10 du/ha. The development of residential units linear to the fairways must be avoided as far as possible.

It is envisaged that the existing clubhouse will be upgraded to make provision for an increased number of members. The golf course and clubhouse amenities must still be open to the general public at an affordable fee.

Project E: 'College Site' Development

This ± 30 ha site could be developed as a mixed use development of approximately 450 residential units at a gross density of approximately 15 du/ha, which could make provision for a broad range of property sizes and values.

The development of this site must be structured in such a manner as to reflect the large erven of the surrounding neighbourhoods, along the periphery of the site, while smaller erven could be provided towards the centre of the property. It is imperative that the development of this site promotes qualitative urban integration which is financially viable and that does not undermine existing property values.

Provision must also be made in the project proposal for the integration and upgrading of the existing low cost housing development on the south western portion of the site.

Project F: Pabalello Integration Project

This site has a developable area of approximately 110 ha and provides an ideal opportunity to achieve urban and social integration through the provision of affordable housing and its associated amenities.

It is proposed that this site be utilized for a mixed use development of residential units at a gross density of approximately 15 du/ha, which should make provision for a broad range of property sizes and values, together with the necessary institutional amenities, i.e. crèches, primary and/or high school, community centre, etc. and commercial nodes appropriately located in the overall urban design.

Project G: Transnet Precinct

Site F (approximately 28 ha) is an ideal opportunity to achieve economic integration by bringing employment and economic opportunities closer to marginalized communities. It also provides space for the expansion of Upington CBD.

It is proposed that this site be utilized for an approximate mix of commercial/business and, to a lesser extent, residential uses at a higher gross density of no more than 30 du/ha. It must be developed in accordance with the policy guidelines and general development parameters guiding development applications in *General Business Corridors* (refer to Chapter 8.2 of Volume 2) and the overall policy guidelines guiding the development of *Activity Corridors* (refer to Chapter 8.1 of Volume 2).

The urban design of the site must include linkages to the Oranje & Keimoes General Business Corridors and especially the Progress Neighbourhood Node (NN 4) specifically focusing on integrating the proposed SMME incubators with the commercial activities of Site F (refer to Plan 14.4 & Plan 14.14).

Project H: Gordonia Resort and North Bank Tourism Node

This site has a developable area of approximately 28 ha (not taking into consideration the position of existing infrastructure) and could be redeveloped as a public resort, including all amenities associated with such a development. The success of such an undertaking will be dependent on good management. It is therefore proposed that Gordonia Resort must either be sold to a private developer(s) or be leased to a private developer(s) on a long term basis (i.e. more than 50 years).

The urban design of Gordonia Resort must take into consideration the integration of the Resort with the Lemoen Street and Gariep River Hospitality Corridor as part of the so-called North Bank Tourism Node (refer to Plan 14.17 & Plan 14.18).

Due to the fact that the area is located below the 1:50 year floodline specific attention must be given in the mandatory *Scoping and EIA Phase* to the guidelines proposed in Chapter 10.1 of Volume 2 in respect of floodproofing of buildings.

Project I: Die Eiland Resort and Golf Course (Including Reitz Park)

This site has a developable area of approximately 140 ha (not taking into consideration the position of existing infrastructure). It is proposed that Die Eiland Resort and Golf Course also be developed by a private developer(s). The site must therefore also be sold or be leased, on a long-term basis (more than 50 years) to the developer(s).

The site could be utilized as a semi-private or private resort, while a portion of the site could be set aside for the development of professional office space. A small commercial component could

be located next to the N10, which could be integrated with a similar component on the eastern side of the N10 as part of the redevelopment of Reitz Park. This commercial component must be open to the general public.

Reitz Park must be redeveloped as a public amenity as part of the development of Die Eiland Resort and Golf Course. An 18-hole golf course, club house and other associated amenities could be designed in the dry riverbeds surrounding Die Eiland and Reitz Park. Depending on the feasibility of the project, the golf course could either be developed as part of the Die Eiland Resort or as a separate component.

The urban design of this project must take into consideration the integration with the Lemoen Street and Gariep River Hospitality Corridor (refer to Plan 14.17 & Plan 14.18).

Due to the fact that the area is located below the 1:50 year floodline specific attention must be given in the mandatory *Scoping and EIA Phase* to the guidelines proposed in Chapter 10.1 of Volume 2 in respect of flood-proofing of buildings.

Project J

This site has a developable area of approximately 48.9 ha. It is proposed that the area be utilized for residential development. At 10 du/ha gross a total of ± 490 units of 1 000 m^2 could be developed in this node.

No structural development must be allowed in riverbeds and natural stormwater drainage lines. These areas must be appropriately landscaped and incorporated in proposed developments as open spaces and parks.

Project K

This site has a developable area of approximately 32 ha. It is proposed that the area be utilized for residential development. At 10 du/ha gross a total of ± 320 units of 1 000 m^2 could be developed in this node.

No structural development must be allowed in riverbeds and natural stormwater drainage lines. These areas must be appropriately landscaped and incorporated in proposed developments as open spaces and parks.

Project L

This site has a developable area of approximately 26 ha. It is proposed that the area be utilized for residential development. At 10 du/ha gross a total of ± 260 units of 1 000 m^2 could be developed in this node.

No structural development must be allowed in riverbeds and natural stormwater drainage lines. These areas must be appropriately landscaped and incorporated in proposed developments as open spaces and parks.

Project M: Nuwerus Neigbhourhood Node

This site has a developable area of approximately 58.7 ha. At 20 du/ha gross (2 storeys with loft space) a total of ± 1 174 units could be developed in this node.

It must be developed in accordance with the policy guidelines and general development parameters guiding development applications in *General Business Corridors* (refer to Chapter 8.2 of Volume 2) and the overall policy guidelines guiding the development of *Activity Corridors* (refer to Chapter 8.1 of Volume 2). The urban design of the site must include linkages to the N10 General Business Corridors (refer to Plan 14.15).

Project N

This site has a developable area of approximately 63.7 ha. It is proposed that the area be utilized for residential development with an appropriate commercial component. At 15 du/ha gross a total of ± 955 units could be developed in this node.

Project O

This site has a developable area of approximately 45 ha. It is proposed that the area be utilized for residential development. At 10 du/ha gross a total of ± 450 units of 1 000 m^2 could be developed in this node.

No structural development must be allowed in riverbeds and natural stormwater drainage lines. These areas must be appropriately landscaped and incorporated in proposed developments as open spaces and parks.

Project P: Progress SMME Incubator

This project constitutes the development of an SMME Incubator (SPC D.l) in Neigbourhood Node 5: Progress on an area of approximately 1 ha. Consideration will be given to the duplication of this development type in, amongst other Pabalello and Oranje.

This development will focus on the promotion of SMMEs and the provision of suitable infrastructure and services supportive of community-based service trades and retail.

Project Q: Melkstroom Mixed-use Development

This ± 140 ha site could be developed as a mixed-use development and aims to provide a strategy that would help to address the following:

a) Housing needs of Upington and rural areas.
b) Creating investment opportunities that would broaden the tax base and, in particular, help to address aspects of poverty and inequality in the area.
c) Enable the utilization of the *Sustainable Development Initiative* (SDI) as provided for in the SDF.

The Melkstroom precinct will be purpose-built to accommodate a large range of land uses. The precinct will consist of two district areas, namely:

(i) An Agricultural Village

The Agri-Village will offer farm workers and certain previously disadvantaged individuals the opportunity to own residential properties in a defined village. It is the intension that the Agri-Village should also create opportunities for agricultural employment and/or empowerment.

The village will offer a range of housing typologies which will range from low-cost to middle income housing. These units must be planned and developed in a coherent and integrated manner.

(ii) Melkstroom Estate

It is intended that the remaining non-viable agricultural land within the precinct be utilized for township establishment. Such development should make provision for a wide spectrum of housing typologies and options from the entry level to high income level. The development should typically make provision for higher density components in a defined area as well as a low density component (possibly in the form of a typical agri-estate).

In addition to the residential options, the development should also make provision for small-scale commercial activities such as restaurants, a lodge and clubhouse and qualitative open spaces. In this regard, the incorporation of the canal in the planning and design should be investigated and considered.

4.2.2 EXPECTED BULK SERVICES DEMAND

The Electricity and Engineering Departments of //Khara Hais Municipality indicated that to determine whether new developments and projects located on the northern side of the Gariep River could be accommodated within the present service delivery capacity of the Municipality, the details of each project (area and units) must be analyzed by the Municipality's electronic bulk service demand system. Projects A to H must therefore be included in the Department's *Bulk Services Plan* to be drafted by the Engineering Department as soon as more detailed planning and design information are available.

The provision of bulk services to proposed developments on the southern side of the Gariep River is problematic and will require capital investment into the upgrading of the water reticulation and sewerage system as well as the establishment of new electricity infrastructure.

KV3 Engineers therefore determined the expected bulk water, sewerage and electricity demand based on a general amount of units that could be accommodated on each site (refer to Table 7 below) .

Table 7: Expected Bulk Water, Sewerage and Electricity Demand for Projects South of the Gariep River

SITE	APPROXIMATE UNITS	WATER Annual Average (kl/day)	SEWERAGE Annual Average (m^3/day)	ELECTRICITY Peak Demand (kVA)
I	490	1 348	943	2 940
J	320	880	616	1 920
K	260	715	500	1 560

L	1174	2 465	1 725	7 044
M	955	2 624	1 836	5 724
N*	450	/	/	/

* Site N was identified after KV3 completed their expected bulk service demand.

Based on the figures in Table 7 the following infrastructure investment and upgrading will be necessary to enable the development of the area south of the Gariep River:

a) **Water**

Water is abstracted from the Gariep River at an abstraction point located on the northern banks of the river next to the railway bridge (refer to Figure 3). Due to high and low water levels in the Gariep River together with difficulty regarding accessibility of the abstraction facility during floods, limited other possible abstraction points are available. It is therefore recommended that the existing water abstraction point and water treatment works be utilized for water provision to the proposed developments on the southern side of the river.

An additional bulk water supply pipeline running from the existing water treatment works along the railway bridge to the southern part of the river is also proposed. This pipeline could be linked to the existing water tower next to the railway at the southern side (refer to Figure 3).

A water reticulation system must be put in place from the reservoir to the each development area and must then be linked to the bulk supply to establish a ring feed system. A bulk storing capacity must also be investigated (refer to Figure 3).

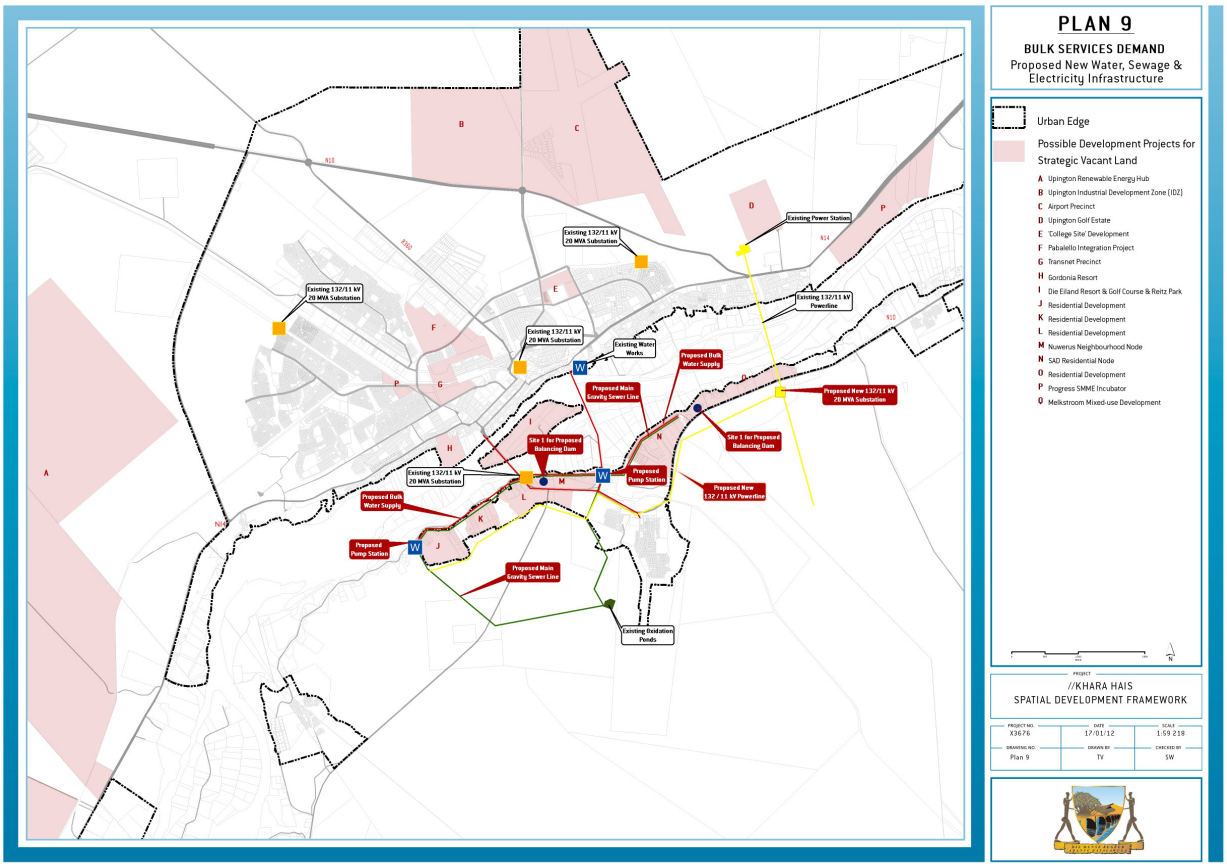


Figure 3: Proposed Bulk Service Infrastructure (refer to Plan 16 under separate cover).

b) **Sewerage:**
The existing bulk sewerage services south of the river are limited to a reticulation flush system and oxidation ponds at Louisvaleweg. It is recommended that an independent sewerage infrastructure system be constructed at an appropriate site to be determined (refer to Figure 3).

c) **Electricity:**
The current electricity distribution will not accommodate the electricity demand for the various developments proposed. A new substation (e.g. 132/11 kVa, 20MVa) must be developed together with the necessary reticulation network which is to be linked to the existing supply substation adjacent Upington Golfcourse (refer to Figure 3).

The investment into the development of bulk service infrastructure on the southern side of the Gariep River could be phased as follows:

PHASE 1			
Water	**Sewerage**	**Electricity**	**Roads & Railways**
Upgrading of the bulk water supply from the existing water works at the northern front of the river, crossing the Orange River at the railway bridge to the development area (eastern part).	Upgrading of the existing oxidation ponds at Louisvaleweg. Sewer supply from Eastern part of the proposed development area towards the oxidation ponds, inclusive of a rising mainline to the ponds.	Electricity supply from the existing 132/11kVa power supply line at the eastern part of the proposed development.	Existing gravel road parallel to the existing canal (at the south eastern part) and the existing Upington / Groblershoop will act as access roads. The creation of a tram system is essential from a transport and tourism point of view.
PHASE 2			
Water	**Sewerage**	**Electricity**	**Roads & Railways**
Extension of water to the western part. Upgrade the existing bulk water pipeline crossing the Orange River at the old 'Oranje' bridge and extend the supply to the western part.	Upgrading of oxidation ponds. Extension of sewer bulk supply to the western part. Construct a rising main pipeline from the western part towards the oxidation ponds, crossing the existing Louisvale tar road. The oxidation ponds must be upgraded to a full sewer treatment plant at a later stage, according to affluent.	Extension of the 132/11KVa power supply from the eastern part to the western part.	New access roads to the western part to be constructed at a position above the existing canal. The tram option to be extended to the western part.

4.3 STRATEGIES

Table 8 below summarises general strategies for the development and management of the SPC D and E area in //Khara Hais Municipality.

Table 8: Urban Development Strategies.

KEY ISSUE NO. 4.3 (a): URBAN DEVELOPMENT FACILITATION			
OBJECTIVE:	Provide the framework and vision required for improving the quality of life of the people living in //Khara Hais.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Manage development in accordance with the SDF, Khara Hais Zoning Scheme and relevant legislative framework.	No. 2.2 & No. 2.3	To be facilitated by //KHM
(ii)	Focus new development proposals within the designated Urban Edge and other *Spatial Structuring Elements* (**refer to Plans 13 and 14 and Section D of Volume 2**).	/	"
(iii)	Revise the Urban Edge every five years to accommodate growth and development.	/	"
(iv)	Regulate development in accordance with the place specific design guidelines (**refer to Section D of Volume 1**). **(Refer to Strategy 2.2 & 2.3 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	/	
(v)	Impose the implementation of the *Sustainable Development Initiative (SDI)* approach for large-scale development projects (**refer to Chapter 12.2 and Annexure 2**). **(Refer to Strategy 2.1 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	/	//KHM in collaboration with the private sector.

KEY ISSUE NO. 4.3 (b): ESSENTIAL URBAN DEVELOPMENT			
OBJECTIVE:	Develop essential infrastructure and facilities to accommodate the aspirations, needs and pressures of present and future industries, businesses and dependant communities.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Prepare a *Bulk Services Plan* which indicates whether the service infrastructure of the municipality can accommodate the envisaged development in accordance with **Figure 2 above and SPC Plans 3 – 12**. The *Bulk Services Plan* must accommodate the phased development of the projects located on the southern side of the Gariep River **(refer to Chapter 4.2.2)**.	/ /	//KHM.
(ii)	Draft a detailed engineering investigation and preliminary design with cost estimates to determine the exact financial implication	/	Development proponent in

	and location of the required services and infrastructure		collaboration with //KHM.
(iii)	Provide and maintain infrastructure and services to accommodate the community housing needs. **(Refer to Strategy 2.4 – 2.6 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	No. 2.4, No. 2.5 & No. 2.6	//KHM.

KEY ISSUE NO. 4.3 (c): ENVIRONMENTAL IMPACT			
OBJECTIVE:	Limit negative impacts of urban development to pre-determined acceptable levels.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	All developments applications located just below or above the preliminary 1:50 year floodline must predetermine the exact location of the 1:50 year floodline.	/	To be undertaken by the proponent.

KEY ISSUE NO. 4.3 (d): ROADS AND TRANSPORT			
OBJECTIVE:	Develop necessary infrastructure and facilities required to improve transportation in, and aesthetic qualities of urban areas.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Construct a West and East Bypass for the N14 (**refer to Plans 13 and 14)**.	/	SDM, //KHM, SANRAL, Dept. of Transport
(ii)	Develop / upgrade and maintain roads and streets within urban areas.	No. 3.2 & No. 3.3	//KHM in collaboration with the Dept of Transport.
(iii)	Construct a network of pedestrian walkways and cycle paths prioritizing *Activity Corridors* and *Activity Streets* (**refer to Plans 14, 14.12- 14.21**).	/	//KHM.
(iv)	Prepare a *Public Transport Plan* in respects of maintenance of existing transport infrastructure and developing public transport infrastructure, which should be linked to school children and farm worker transportation.	No. 3.1 & No. 3.4	KHM in collaboration with the Dept of Transport.
(v)	Draft an *Integrated Tourist Transportation Strategy*, which could be linked with appropriate long-distance bus stops and shelters along major routes. **(Refer to Strategies 3.1 - 3.4 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	No. 3.4	//KHM.

KEY ISSUE NO. 4.3 (e): WATER AND SANITATION			
OBJECTIVE:	Develop necessary infrastructure and facilities required to improve the provision of water and sanitation services and satisfy community needs.		
	STRATEGY	**IDP**	**RESPONSIBLE**

No.	Description	PRJ NO	INSTITUTION
(i)	Provide essential water related infrastructure and services in accordance with the *Bulk Services Plan* to accommodate community needs.	No. 6.1 - No. 6.4	//KHM.
(ii)	Provide essential infrastructure and services in accordance with the *Bulk Services Plan* to address sanitation requirements. **(Refer to Strategies 6.1 – 6.4 & 4.1 – 4.4 in //Khara Hais IDP [2007-2012]).**	No. 4.1 - No. 4.4	//KHM.

KEY ISSUE NO. 4.3 (f): WASTE DISPOSAL

OBJECTIVE: Regulate waste disposal to prevent pollution of the natural environment and natural resources.

STRATEGY		IDP PRJ NO	RESPONSIBLE INSTITUTION
No.	Description		
(i)	Prepare and institute integrated management plans for pollution control in respect of each settlement and regulate waste disposal in accordance with integrated waste management plans. **(Refer to Strategy 4.5 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	No. 4.5	//KHM in collaboration with SDM.

KEY ISSUE NO. 4.4 (g): ELECTRICITY

OBJECTIVE: Provide essential infrastructure required to improve electricity provision.

STRATEGY		IDP PRJ NO	RESPONSIBLE INSTITUTION
No.	Description		
(i)	Expand and upgrade existing electricity reticulation schemes in respect of each settlement in accordance with the recommendations of the *Bulk Services Plan*.	No. 5.1 & No. 5.2	//KHM.
(ii)	Provide lighting in streets and areas still in need.	No. 5.3	//KHM.
(iii)	Encourage installation of alternative electricity provision devices, e.g. solar panels, power saving devices. **(Refer to Strategies 5.1 – 5.3 in //Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	/	//KHM.

5 RURAL DEVELOPMENT

Development inevitably modifies the environment. It is important that a certain level of change or modification must be accepted. This unavoidable change can, however, be mitigated or controlled to predetermined *'limits of acceptable change'*. To achieve this, all landowners/developers need to take responsibility for the maintenance of the ecological, sociological, aesthetic and cultural qualities of their respective properties and of the bioregion as a whole.

This requires responsible land ownership based on the following fundamental principles:

a) **Owning is belonging:** The place to begin conceiving land ownership is to realise that land parcels are inherently connected and that each parcel, and hence each owner, belongs to a larger community. A person is unlikely to use land responsibly without an awareness of the seen and unseen links, the inevitable spillovers and externalities.

b) **Embracing our ignorance:** In environmental management a prominent place is needed for human ignorance. Land ownership should include the obligation to use the land humbly, within the limits set by the land - limits that are often badly understood. The correlative rule is an acceptance of liability for land degradation and a pledge to do what is possible to restore it and of finding ways to avoid problems before they arise.

c) **Sensitivity to place:** Given the complexity of nature and the paramount need to promote community well-being, land use norms must stimulate an attention to place and foster a willingness to tailor land uses to the characteristics and possibilities of each tract. Land uses must be set, not just by what is economically and physically possible in a place, but by the role of the tract of land in the surrounding ecosystem.

d) **Promoting local knowledge:** Good land use is best understood as an art, tailored to the uniqueness of each place and sensitive to the possibilities and limits set by nature. Local knowledge is often tied to the terrain, soils, climate, hydrology, biodiversity, and economy of a place, arising by cautious, trail-and-error methods that environmentalists have come to call *adaptive management*.

e) **Landscape-level planning**: Good ownership will include the owner's participation in landscape-level planning. Land health cannot revive without plans that cover large areas, such as watersheds, ecosystems or bioregions, (i.e bioregional planning).

The development and maintenance of essential services and infrastructure such as roads, electricity, running water and communication systems should be considered and prioritised in a bioregional context. This is to ensure that (a) all the people of //Khara Hais Municipality have equitable access to such services (refer to the vision statement), and (b) that the available funds are spent in the most cost-effective manner.

Carrying capacity is a critical element in determining appropriate development density and scale. Due to the complexity of social and ecological carrying capacity, the process of determining development densities is in itself rather complex and often subjective.

Determining development scale has been based upon a rules-based approach that largely ignored place-specific principles such as those promoted by the concept of 'critical regionalism' (refer to Section D of Volume 2).

This document promotes a place-specific approach to environmental planning, design, and management, and decision-making that is based on identified values and environmental ethics. This approach is largely an antipodal to the rules-based approach, which has given rise to settlement patterns that are largely unacceptable.

In this regard, there is general consensus that past settlement patterns and lifestyles cannot be allowed to continue. There seems to be general consensus that past settlement patterns and the consumption of natural resources are unsustainable and that the settlement patterns and practices of the past are destroying the land. A fundamental paradigm shift is required in order to ensure that past mistakes are not repeated and that the unique quality of //Khara Hais Municipality and its historic settlements are not lost in the future.

In principle, the SDF does not support urban-related development outside of the defined urban edge of Upington and its outlaying rural settlements. However, each development application will be adjudicated by the Municipality on merit in accordance with the guidelines stipulated in Chapter 5.2 of Volume 2. The merit of applications that are inconsistent with this SDF will be adjudicated against *inter alia* the following:

a) Desirability of the proposed project.
b) Feasibility of the proposed project in social, economic and environmental terms.
c) Potential contributions of the proposed project to local economic development and environmental protection. As stated in Chapter 5.2 of Volume 2, the Municipality may require, as a condition of approval, that such developments be undertaqken in accordance with the Sustainable Development Initiative (SDI) approach (refer to Chapter 12 below).

5.1 VISION

The following vision was set for the development of the rural areas of //Khara Hais:

Creating in an environmentally sustainable manner the infrastructure and services that are essential for the development of the rural communities of //Khara Hais whilst enhancing its unique rural character.

5.2 STRATEGIES

Table 9 below summarises general strategies for the development and management of rural development in //Khara Hais Municipality.

Table 9: Rural Development Strategies.

KEY ISSUE NO. 5.2 (a): ESSENTIAL RURAL INFRASTRUCTURE DEVELOPMENT			
OBJECTIVE:	Provide the infrastructure and services required for improving the quality of life of the people living in the rural areas of the region.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Focus new development proposals within the designated Urban Edge of each rural settlement (**refer to Plans 5 - 12)**.	/	//KHM.
(ii)	Regulate development in accordance with the principles and guidelines as summarised in the Planning and Design Framework (**refer to Section D of Voume 1**) and the Land Use Plans (**refer to Plans 3 - 12**).	/ /	//KHM.
(iii)	Impose implementation of the *Sustainable Development Initiative (SDI)* approach when undertaken large-scale development projects (**refer to Chapter 12.2 below**).		//KHM.
(iv)	Development/upgrade and maintain adequate infrastructure and services for rural settlements and large farm nodes. **(Refer to Strategies 3 – 7 & 9 in /Khara Hais IDP [2007-2012] for essential service needs already identified and priority projects).**	/	//KHM.

PROGRAM 3: ECONOMIC SECTORS DEVELOPMENT

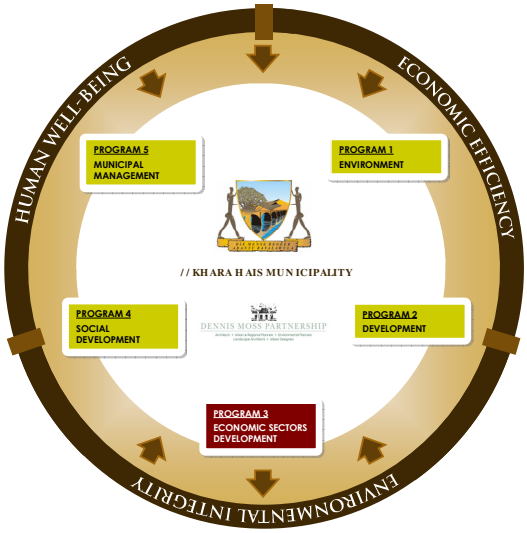
CHAPTER CONTEXT

The structure of the chapters covering the *Economic Sectors Development Program* is as follows:

Sub-Program 1: Tourism

Sub-Program 2: Agriculture

Sub-Program 3: Manufacturing



As stated previously, 'sustainable development' occurs at the intersection of three global imperatives, namely **human well-being, environmental integrity**, and **economic efficiency** and that if these imperatives are not balanced, sustainable development cannot be achieved. It is, therefore, of paramount importance that the fundamental role of the economy is properly understood and strategies be implemented for ensuring economic efficiency in all the integrated sectors described in this document. Economic efficiency refers to the optimisation of benefit at the lowest cost for valued things.

6 TOURISM

Tourism has the potential in //Khara Hais to contribute to the achieving the goals of the *Accelerated and Shared Growth Initiative for South Africa (ASGISA)*, which are to increase economic growth 6% by 2010, and to assist in halving poverty and unemployment by 2014. The strategy has identified tourism as one of the key economic sectors with excellent potential for growth.

Tourism is a cost-effective provider of employment with strong linkages to the local economy, and it represents a substantial multiplier effect. Ecotourism, in particular, can provide economic justification for the conservation of the areas that may otherwise not receive protection, and generate revenue for the management of these areas, and the upliftment of local communities. However, tourism also has the potential for having a huge impact on the environment. Being one of the least regulated industries, tourism has the potential to induce devastating environmental and cultural changes. It is therefore important to develop tourism in a sustainable manner.

According to //KHM Tourism Development Plan, the aims of tourism development are to:

a) Promote Upington as an attractive and desirable tourist destination.
b) Plan, manage and control tourism development in Upington.
c) To define, adjust and implement sustainable tourism strategies which are environmentally sound, socially acceptable and economical viable.
d) To provide support, incentives, and assistance to approved tourism projects in line with the defined strategies and policies.

Sustainable tourism in its purest sense, is an industry which attempts to make a low impact on the environment and local culture, while helping to generate income, employment, and the conservation of local ecosystems. It is responsible tourism that is both ecologically and culturally sensitive.

To ensure sustainable growth and profitability in the tourism industry, the following challenges need to be faced:

- A substantial portion of the tourism benefits must find its way into the local communities.
- *'Practice what we preach'* in tourism developments and operations (e.g. ensure that all new developments in the natural environment qualify as 'unobtrusive' and 'environment-friendly').
- Integrate the cultural and natural heritage when putting together tourism packages.
- Re-invest a substantial portion of tourism profits in the maintenance of the cultural and natural resources.
- Create a strong element of ecological and cultural awareness with tourists in order to ensure sustainability.

According to *National Geographic Online,* sustainable tourism has the following characteristics:

(i) It is informative: Travellers not only learn about the destination, they learn how to help sustain its character while deepening their own travel experience. Residents learn that the ordinary and familiar may be of interest and value to outsiders.
(ii) It is supports integrity of place: Destination savvy travellers seek out businesses that emphasize the character of the local in terms of architecture, cuisine, heritage, aesthetics, and ecology. Tourism revenues in turn raise local perceived value of those assets.
(iii) It benefits all residents: Travel businesses do their best to employ and train local people, buy local supplies, and use local services.
(iv) It conserves resources: Environmentally aware travellers favour businesses that minimise pollution, waste, energy consumption, water usage, landscaping chemicals, and unnecessary night time lighting.
(v) It respects local culture and tradition: Foreign visitors learn about and observe local etiquette, including using at least a few courtesy words in the local language. Residents learn how to deal with foreign expectations that may differ from their own.
(vi) It does not abuse its product: Stakeholders anticipate development pressures and apply limits and management techniques to prevent the 'loved to death' syndrome. Businesses co-operate to sustain natural habitats, heritage sites, scenic appeal, and local culture.
(vii) It strives for quality, not quantity: Communities measure tourism success not by sheer numbers of visitors, but by length of stay, money spent, and quality of experience.
(viii) It means great trips: Satisfied, excited visitors bring new knowledge home and send friends off the experience the same thing – which provides continuing business for the destination.

6.1 VISION

The following vision was set for the development of tourism as a primary contributor to the economy of //Khara Hais:

Develop tourism as a sustainable industry, supporting or enhancing marginal industries and contributing significantly to the improvement of the quality of life of all the communities of //Khara Hais

6.2 RECREATION OPPORTUNITY SPECTRUM: A FRAMEWORK FOR PLANNING AND MANAGEMENT OF TOURISM

In order to facilitate the planning and management of tourism in the municipal area a framework is provided for the preparation of a comprehensive *Recreation Opportunity Spectrum (ROS)* for //Khara Hais.

The purposes and practical application of the ROS include the following:

a) It provides a framework for the formulation of an appropriate 'image for the municipal area and for the branding and marketing of the primary tourism products.

b) It provides a comprehensive inventory of tourism opportunities so as to attract the appropriate target market. This will be achieved through the creation of appropriate mental images as a basis for the evaluation and selection of the tourist's choice of destination.

c) It ensures that tourists will not have false expectations and that these expectations and aspirations will be fulfilled.

d) It provides guidance in respect of the most appropriate tourism type and/or opportunity class to be presented in any zone of the municipal area. These guidelines are based on the environmental ethics and value system, and the designated SPC Categories described in Section C of Volume 2. In order to illustrate where each of the tourism types defined by the ROS can be undertaken, the ROS was linked to, and should be read together with the *SPC* (Land Use) and *Spatial Structuring Elements Plans* (refer to Section D of Volume 2).

e) It provides a framework that will facilitate the preparation of guidelines for the development of tourist facilities (e.g. in accordance with the principal of critical regionalism described in Section D of Volume 1) and the management of tourism activities in each zone.

f) It provides a framework in terms of which the municipality will be in the position to guide future tourism development and management throughout //Khara Hais.

g) It provides a framework for the preparation of management plans for tourism destinations and enterprises.

The ROS concept implies 'product-led' tourism, which entails developing forms of tourism that are most compatible with the environment and society, and targeting those markets that are consistent with the product even though this may result in fewer tourists, but not necessarily smaller financial return ('market-led' tourism, on the other hand, is tourism that attracts a broad market regardless of the impact of development).

Key requirements for sustainable 'product-led' tourism include the following:

- Provision of high-quality and authentic tourism 'products'.
- Effective educational programs that promote an understanding of the tourism products with both the tourists and the local communities.
- Effective marketing of the tourism products with the purpose of attracting specific types of tourists.
- Appropriate management of the tourism resources in order to ensure their sustainability.

The table below represents a conceptual ROS for //KHM. The preparation of a comprehensive ROS for //Khara Hais will be the subject of thorough tourism planning and the preparation of a dedicated tourism plan to be undertaken as a consequence of this SDF.

Table 10: Preliminary Recreation Opportunity Spectrum for //Khara Hais Municipality.

TOURISM TYPE	OPPORTUNITY CLASS	DEFINITION	ZONE	LOCALITY
NATURE TOURISM	**Nature experiences**	Non-consumptive activities in natural areas focussed on physically and spiritual enjoyment of nature. Relatively safe forms of outdoor recreation such as hiking, biking, camping as well as game and bird watching. Includes guided trail in the Spitskop Nature Reserve and canoe and boat trips on the Gariep River.	SPC A.a, B.a, B.b and B.c, C.a (refer to Plan 4).	Statutory and Non-statutory nature reserves, private farms.
ADVENTURE TOURISM	**Adventure and dedicated sports activities**	Non-consumptive activities in the natural environment. An element of danger; requiring physical skill and endurance, degree of risk-taking. Includes river-rafting, canoeing, mountain-biking, quad-biking and micro-light flights. (*__NOTE__: *Mechanised sports, e.g. quad-biking, may only take place in dedicated zones in order to avoid any noise and dust disturbances).*	SPC A.b, B.a, B.b, B.c, C.a (refer to Plan 4).	Appropriate locations throughout //KHM.
SPECIAL INTEREST TOURISM	**Educational study tours**	Non-consumptive study and experience of aspects of both the natural and cultural environment and its resources. Includes diverse educational travel programs.	SPC A.a, A.b, B.a, B.b, B.c, C.a, etc. (refer to Plan 4).	Throughout //KHM.
CULTURE TOURISM	**Local culture and tradition in traditional settlement areas.**	Direct experiencing local cultures, traditions, and life style, e.g. eating traditional food, visiting traditional settlements.	SPC C.b, D.b, D.c, etc. (refer to Plan 4).	Throughout //KHM.
	Local history, archaeology & palaeontology.	Study local history – visit cultural villages, follow cultural/historical routes, visit sites of historical significance.	SPC. B.a, D.a, D.b, etc. (refer to Plan 4).	Throughout //KHM (e.g. proposed Poppie Ngene's Route).
	Festive occasions and agricultural shows.	Experience cultural shows and festive occasions commemorating local culture, traditional, agricultural aspects.	SPC D.a, D.b, etc. (refer to Plan 4).	Throughout //KHM (e.g. Kalahari Kuierfees, Northern Cape Expo, Upington Raison Festival, etc.).

'AGRI' TOURISM	**Traditional life styles and agricultural practices.**	Study and experience traditional lifestyles and land-use practices of the area, e.g. cultivation/production of wine, dried fruit, game products. Join the farmer and his family in their home or opt for a self-contained cottage or traditional farmhouse. Accommodation and guided tours on farms or through agri-industries.	SPC C.a, C.b, D.c, D.o, E.a, etc. (refer to Plan 4).	Along the Gariep River and surrounding settlements.
GENERAL TOURISM	**All other forms that are not catered for under the above categories.**	Includes camping, general holiday-making in and around resorts.	SPC D.a, D.b, D.c, D.n (refer to Plan 4).	Throughout //KHM, especially Die Eiland Resort, Gordonia Resort, Reitz Park.

6.3 STRATEGIES

Table 11 below summarises general strategies for the development and management of rural development in //Khara Hais Municipality.

Table 11: Tourism Development Strategies.

KEY ISSUE NO. 6.3 (a): PLACE-SPECIFIC DEVELOPMENT OF TOURISM INFRASTRUCTURE			
OBJECTIVE:	Promote the development of tourist infrastructure that will enhance tourism in general and conform to place-specific architectural, environmental and aesthetic requirements.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Prepare a comprehensive Tourism Development Plan based upon this SDF, the ROS concept, and the principles of sustainable tourism. This should include a Tourism Growth Strategy and appropriate management plans based on the ROS to guide the development and management of tourism-related activities.	No. 1.2	KHM in collaboration with the local & regional tourism organisation and entrepreneurs.
(ii)	Facilitate development and maintenance of tourist facilities and tourist routes in accordance with the ROS. **(Refer to Strategies 1.2 & 1.4 in //Khara Hais IDP [2007-2012] for priority projects already identified to create a more tourist-friendly environment).**	No. 1.4	//KHM.
(iii)	Integrate the redevelopment of Die Eiland, Reitz Park and Gordonia Resort with the development of the proposed • Lemoen Street Hospitality Corridor and Recreation Node, • Gariep River Hospitality Corridor • Schröder Street and Middelpos Hospitality Corridor and • CBD Renewal Program	No. 1.2	To be facilitated by the KHM in collaboration with the private sector.
(iv)	The redevelopment of Die Eiland, Reitz Park, Noordoewer and Gordonia Resort must be undertaken as a Sustainable Development Inititative (SDI).	/	
(v)	Develop Spitskop Nature Reserve as a viable tourist destination,	/	

	including game viewing and overnight facilities. (refer to **Plan 3**). **(Refer to Strategy 1.2 in //Khara Hais IDP [2007-2012].**		
KEY ISSUE NO. 6.3 (b) : COMMUNITY DEVELOPMENT THROUGH TOURISM			
OBJECTIVE:	Promote tourism as a community-based and community-driven industry with substantial potential for providing direct and indirect benefit to the community.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Create opportunities for the small business sector (e.g. sale of products, crafts, curios), especially in the SMME Incubators and the Tourism Nodes identified along the Hospitality Corridors (refer to Plans 14.16 - 14.18).	1.5	//KHM.
(ii)	Promote the 'multiplier effect' or 'fringe benefits' of tourism, e.g. additional jobs for local communities, improved local markets for products (**refer to the implementation of the *SDI* approach summarised in Chapter 12.2 below**).	1.5	//KHM.
(iii)	Investigate the possibility of export of locally manufactured products (refer to the establishment of the IDZ and the development of the Airport Precinct as priority projects). **(Refer to Strategy 1.5 in //Khara Hais IDP [2007-2012] for capacity building strategies already identified).**	1.5	//KHM, DTI & DEAT.

7 AGRICULTURE

Increasing agricultural production is an important means of enhancing regional income and employment, and subsequently improving the welfare of local communities. This statement is particularly valid in the case of //Khara Hais where the agricultural sector provides the primary economic base. Agriculture is one of the main contributors to the GRP and is one the sectors that employ the most people in the study area.

The agricultural sector has an enormous impact on the environment. Indiscriminate agricultural development and farming practices cause serious damage to the natural environment and its community-supporting resources. In this regard the agricultural sector holds the key to the sustainability of the natural resources of //Khara Hais. It is, therefore, paramount to ensure that agricultural land is developed and used in a ***sustainable*** manner. As with any form of sustainable development, the fundamental principle for *sustainable agriculture*[4] is that it must satisfy present requirements without damaging future prospects. To optimise and ensure sustainability of the agricultural sector the following principles need to be adhered to:

a) Physical-biological productivity (maintain and/or improve production/services)
   (i) Maintain existing fundamental values, technologies and structures supporting sustainable and viable agricultural enterprises.
   (ii) Develop and apply new technologies to improve the efficiency of farming practices.

b) Economic security (reduce production risk and uncertainty)

[4] ***Sustainable agriculture*** is an approach as well as a process through which different management and technological activities and socio-economic principles are reconciled with environmental requirements (Smyth and Dumanski, 1993).

(i) Encourage local processing of farm products and the provision of local farm services to enhance the rural economy, increase the viability of agricultural production and reduce rural poverty.
(ii) Retain all the productive agricultural land for agricultural use.

c) Environmental conservation and protection (protect production potential of natural resources)
(i) Integrate land-use planning and community participation to ensure optimum management and utilisation of natural resources.
(ii) All farmers are responsible and accountable for the conservation of natural agricultural resources.
(iii) Land-users causing unacceptable degradation of the natural environment are responsible for rehabilitation of mismanaged natural agricultural resources.
(iv) Real cost of natural resources must be reflected in the pricing of these resources so as to discourage abuse.

d) Social acceptability and justice (promote/establish social acceptability)
(i) Ensure equitable access to resources to all communities.
(ii) Provide access to agriculture via land reform in accordance with environmental requirements and with full participation and consent of all the affected communities.

The agricultural sector has the potential to help address the primary social problems of the area (e.g. unemployment, poverty) and to enhance land restitution. Strategies to provide land to emergent or 'small' farmers and to support existing rural settlements must, therefore, be a high priority. '*On-farm'* options such as *'share-schemes for farm ownership'* should be explored by organised agriculture.

7.1 URBAN AGRICULTURE

The SDF promotes urban agriculture as a mechanism to enhance the sustainable use of resources with the aim to promote the well-being of, in particular, the poor.

Urban agriculture, as suggested for //Khara Hais, is defined as *a community-based land use practiced within (intra-urban) or on the fringe (peri-urban) of an urban settlement, which grows or raises, processes and distributes a diversity of food and non-food products, (re-)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area* (Mougeot, 1999[5]).

Urban land can play an important role in 'livelihood diversification', i.e. where a household has more than one livelihood strategy in order to reduce vulnerability (Urban Sector Network, 2003[6]). Suitable land within the //Khara Hais urban setting can be used to generate sustainable livelihoods through, for example, the following:

a) Home-based micro-enterprises.
b) Urban agriculture (small-scale cultivation of vegetables and other suitable crops).

[5] Mougeot LJA 1999: *Urban agriculture: Definition, Presence, Potentials and Risks.* Thematic Paper 1
[6] Urban Sector Network 2003: Scoping Study – urban land issues.

7.1.1 POTENTIONAL POSITIVE IMPACTS OF URBAN AGRICULTURE

In //Khara Hais, the concept of urban agriculture can make a meaningful contribution towards the following (Visser, 2003[7]):

a) Household food security – the self-production of food insures availability, affordability and accessibility to food, which also improved nutrition. This releases cash for other needs which would otherwise have been spent on purchasing food. The improvement of households' food security and nutrition can contribute towards the fight against HIV/AIDS because people tend to be physically stronger.
b) Income generation – surplus production can be sold or traded for other much needed items. Urban agriculture activities can serve as a supplement to income or can become a primary source of income depending on the scale of activities.
c) Affordability of food to the poorest of the poor – these micro-food growers can produce food at the doorstep of their communities and through low input costs and the elimination of intermediaries they can subsequently deliver produce at a price lower than the formal market price.
d) Human resource development – the execution of urban agricultural activities can coincide with technical, business and social skills development through training and practice – leadership, project management, etc.
e) Increased social status and dignity – a garden is symbolic of the women's important role in society as wives and as mothers. Food gardens, although small, is important because it contributes to the well-being of the family. Women gain pride and a sense of self-worth when their produce is consumed by her family. Also, gardens provide solace and comfort.
f) Resource conservation – because the yield from urban agricultural activities impacts positively on their survival, people recognise the real value of land and are prepared to maintain it.

Progressive and well-managed urban agricultural activities can have significant benefits for //Khara Hais. These include the following:

(i) Improved cleaning of the town through the use of biomass for composting, including grass cuttings, paper, etc.
(ii) Improved environmental awareness, because there is a realisation that caring for the environment can create material benefit – good quality water is needed for vegetable production which should encourage people not to pollute water.
(iii) Contribution to environmental restoration and greening of the town which can enhance the Municipal Open Spaces System (MOSS).
(iv) Improved environmental health by turning unsightly erven into neatly cultivated areas.

7.1.2 OPPORTUNITIES FOR URBAN AGRICULTURE IN //KHARA HAIS

Urban producers could achieve real efficiencies by making productive use of under-utilised resources such as vacant land, treated wastewater, recycled waste and unemployed labour. The following opportunities for urban agriculture exist in //Khara Hais and, in particular, in Upington:

a) Opportunities around state-owned land. There are public facilities which present opportunities for access to land for urban agricultural activities. These include underutilised land around clinics, libraries, schools, hospitals and many more. Most of

[7] Visser S 2003: *Poverty alleviation: The contribution of urban agriculture:* Study Report

these facilities are fenced-off, water and electricity are available and are easily accessible in terms of location and roads. Furthermore, many of these facilities are protected by security services. Undeveloped public open spaces, vacant industrial land, road and rail reserves, storm water ponds and servitudes for power lines present also opportunities for access to land.

b) Other municipal-linked opportunities. Sufficiently treated wastewater are used worldwide for, *inter alia*, irrigation of sport fields and urban agricultural activities. This water resource can make a valuable contribution towards the availability and affordability of water for urban agricultural activities.

7.2 LAND REFORM

Government is continually faced with the need to balance strong demands from dispossessed people with the need to preserve the commercial farming sector. Driven by the Department of Land Affairs (DLA), government opted for a three-pronged land reform policy, comprising of the following three components, each with their own laws and institutions to implement land reform:

a) Restitution of Land Rights, the purpose of which is to restore land and provide other remedies to people dispossessed of land rights by racially discriminatory legislation and practice since 1913.

b) Land Redistribution Program. This program includes a proactive land acquisition strategy and a land for housing strategy. Products available includes the Land Redistribution for Agricultural Development (LRAD) Program (refer to Chapter 7.3 below), the Commonage Program, Farm Equity Schemes, Land Redistribution for Settlement and Non-Agricultural Enterprises.

c) Reform of Tenure System, which aims to provide security to all South African's under diverse forms of locally appropriate tenure and includes an initiative to provide legal recognition and to formalise communal land rights in rural areas, and strengthen the rights of tenants on private farms.

7.3 LAND REDISTRIBUTION FOR AGRICULTURAL DEVELOPMENT

The Land Redistribution for Agricultural Development sub-program has two distinct parts. First, there is the part that deals with transfer of agricultural land to specific individuals or groups. Second, there is the part dealing with commonage projects, which aim to improve people's access to municipal and tribal land primarily for grazing purposes.

LRAD is designed to provide grants to black South African citizens to access land specifically for agricultural purposes. The strategic objectives of the sub-program include: contributing to the redistribution of 30 % of the country's agricultural land over 15 years; improving nutrition and incomes of the rural poor who want to farm on any scale; de-congesting overcrowded former homeland areas; and expanding opportunities for women and young people who stay in rural areas.

The Land Redistribution for Agricultural Development sub-program is flexible enough to accommodate a number of types of projects. Purely residential projects would not be supported under LRAD unless beneficiaries seek to establish household gardens at their new residences, and unless funds for top-structure are sourced form elsewhere, e.g. Department of Housing.

7.4 COMPREHENSIVE AGRICULTURAL SUPPORT PROGRAM

The Comprehensive Agricultural Support Program (CASP) aims to provide post-settlement support to the targeted beneficiaries of land reform, including producers who have acquired land through private means and are, for example, engaged in value-adding enterprise domestically or involved in export. CASP is a core focus area for the Department of Agriculture and will make interventions in six priority areas:

a) Information and technology management.
b) Technical and advisory assistance and regulatory services.
c) Marketing and business development.
d) Training and capacity building.
e) On/off farm infrastructure and product inputs.
f) Financial support.

7.5 THE LAND AND AGRARIAN REFORM PROJECT

A review by Government of its performance in implementing its policies in the land, agriculture and rural sector (including the programs and projects mentioned above) has revealed that regardless of the visible gains made in some areas, considerable more still needs to be done by Government to ensure a vibrant agricultural and rural sector.

The *Land and Agrarian Project* (LARP)[8] provides a new framework for delivery and collaboration on land reform and agricultural support to accelerate the rate and sustainability of transformation through aligned and joint action by all involved stakeholders. It creates a delivery paradigm for agricultural and other support services based upon the concept of 'One-Stop Shop' service centres located close to farming and rural beneficiaries.

The objectives of the LARP are the following:

a) Redistribute 5 million hectares of white-owned agricultural land to 10 000 new agricultural producers
b) Increase Black entrepreneurs in the agribusiness industry by 10%
c) Provide universal access to agricultural support services to the target groups, which include farm dwellers, communal farmers, new and existing black agribusiness entrepreneurs from and in rural, peri-urban and urban areas.
d) Increase agricultural production by 10% – 15% for the target groups, under the LETSEMA-ILIMA Campaign[9].
e) Increase agricultural trade by 10% - 15% for the target groups.

LARP is based on a number of key principles to fast-track land and agrarian reform. These principles are:

(i) The use of *focus areas* to concentrate service delivery in order to better exploit synergies between land redistribution, agricultural production and agri-business development;

[8] The Land and Agrarian Reform Project, although still in concept format, has been accepted by the Presidency as one of the 24 Presidential priorities commonly known as the Apex Priorities.

[9] This campaign aims to bring about an increase in production by unlocking the potential of currently 'dead' land and other assets, in particularly in communal areas.

(ii) An *aligned comprehensive support package* to cater for the inherently multisectoral requirements to make sustainable agricultural production and agri-business development a success (will also encompass social and other economic services);
(iii) The application of *cooperative government* by establishing joint planning, budgeting, approval and implementation procedures between various government departments and programs;
(iv) The full *utilisation of partnerships* in order to exploit the relative strengths and capacities of the key non-governmental stakeholders;
(v) *Subsidiarity:* The decentralisation of decision-making and implementation to the lowest practical level depending on the specific activity; and
(vi) The *success and sustainability of individual settlement projects* will be the measure of success of LARP.

7.6 VISION

The following vision was set for agriculture in //|Khara Hais:

Develop agriculture as an optimally efficient and economically viable market-directed sector representing a socio-economic 'pivot' of //Khara Hais

7.7 STRATEGIES

Table 12 below summarises general management strategies for agriculture in //Khara Hais Municipality.

Table 12: Agricultural Strategies.

KEY ISSUE NO. 7.7 (a) : REGIONAL AGRICULTURAL PLANNING AND MANAGEMENT			
OBJECTIVE:	Ensure effective management of agriculture throughout //Khara Hais.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Ensure equitable access to and participation in agricultural opportunities through the National and Provincial Government's Land Reform Program and the Comprehensive Agricultural Support Program (CASP). **(Refer to Strategy 1.1 in //Khara Hais IDP [2007-2012] for priority agricultural based business development projects already identified).**	No. 1.1	Dept of Agriculture in collaboration with //KHM.

KEY ISSUE NO. 7.7 (b) : FARM PLANNING AND MANAGEMENT			
OBJECTIVE:	Undertake appropriate detailed farm planning as a standard practice on farms.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Apply the farm planning procedure as described in **Chapter 7.8** below	/	Landowners.

(ii)	Create sustainable incentives for employees by implementing the projects proposed by the *Land Redistribution for Agricultural Development* (LRAD) if feasible (**refer to Chapter 7.3**). **(Refer to Strategy 1.1 in //Khara Hais IDP [2007-2012] for priority agricultural based business development projects already identified).**	No. 1.1	Landowners in collaboration with Dept of Land Affairs & //KHM.

KEY ISSUE NO. 7.7 (c): SMALL-FARMER SETTLEMENT			
OBJECTIVE:	Provide sustainable opportunities for small-farmers or emergent farmers.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Utilise potential of SDI approach to facilitate the acquisition of suitable land for sustainable small farming enterprises through the projects catered for under LRAD.	/	Dept of Agriculture, Dept of Land Affairs & //KHM.

KEY ISSUE NO. 7.7 (d) : REZONING OF AGRICULTURAL LAND			
OBJECTIVE:	Regulate and utilise the potential of rezoning of agricultural land to promote comparative economic advantages of //Khara Hais.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Facilitate rezoning of agricultural land in accordance with the guidelines put forward in **Chapter 5.2 of Volume 2**.	/	To be facilitated by the Dept of Agriculture, DTE&C and //KHM.

7.8 DETAILED FARM PLANNING

It is proposed that farms be planned and managed in accordance with guidelines that are in accordance with and give practical effect to bioregional planning. In terms of the latter approach, specific local geographical areas, such as individual farms, are the most detailed or fine-grain planning level.

As stated previously, bioregional planning and management *inter alia* require that environmental conservation becomes an integral part of the management of private land and that such land be planned in a manner that promotes sustainable development. The proposed detailed farm planning is in compliance with this requirement. Figure 4 below illustrates the practical implementation of bioregional planning principles in farm planning.

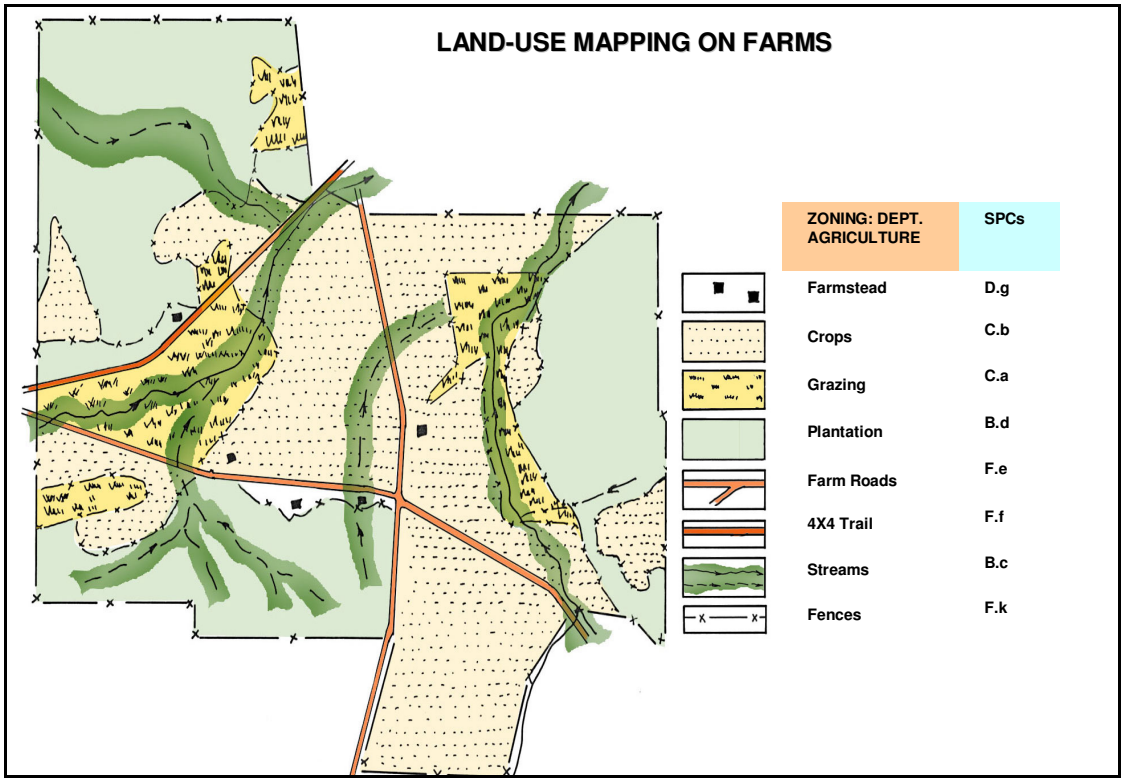


Figure 4: Designation of SPCs on the cadastral unit level (Adapted from *Inleiding tot Grondbewaring,* Department of Agriculture).

8 MANUFACTURING AND INDUSTRY

The Northern Cape Provincial Growth and Development Strategy promote the development of the manufacturing sector through the adoption of a three-pronged approach, namely to:

- Enhance the sector through a stronger relationship with the Department of Trade and Industry (DTI) to get recognition for the dynamics of the sector and to ensure that it receives meaningful focus and support from all spheres of government.
- Establish a Manufacturing Development Centre that actively promotes the development of the sector through a range of non-financial support measures.
- Facilitate the establishment of a Northern Cape Manufacturing Cluster that optimises the use of valuable resources and co-ordinate collaboration amongst manufacturers.

There is a shortage of manufacturing industries in //Khara Hais. Attention should therefore be given to creating incentives to encourage the establishment of such industries. Furthermore, the establishment of semi-formal industries and SMMEs, has to date, not received adequate attention and there are practically no facilities or formal organisational structures in this regard in //Khara Hais.

The natural resources of //Khara Hais together with the central location of Upington and the availability of an airport have the potential to support a variety of manufacturing activities and products. The proposed IDZ would furthermore be conducive to the establishment of the manufacturing sector.

However, it is important that any development in this sector be undertaken in a manner that will promote environmental sustainability. As is generally known, the harvesting and processing of resources can have a detrimental effect on the environment in terms of environmental pollution (air, water, soil, etc.). It is imperative that future manufacturing installations be designed to prevent pollution throughout the production process. In this regard, every effort should be made to ensure that all manufacturing is sustainable through, amongst other, the following:

a) Constant assessment of the environmental impact of manufacturing activities.
b) Development of system packages for industrial clients.
c) Manufacturing and maintenance of pollution control equipment.
d) Development and implementation of 'low or no waste technologies'.
e) Modification of the manufacturing system itself, with the view to optimise resource use and minimise waste and ecological damage (www.educationtimes.com).

8.1 VISION

The following vision was set for the manufacturing sector in //Khara Hais:

Develop manufacturing and industry into a viable sector which builds on the comparative economic advantages of //Khara Hais, and operates in accordance with the highest standards for environmental management.

8.2 STRATEGIES

Table 13 summarises general management strategies for manufacturing and industry in //Khara Hais Municipality.

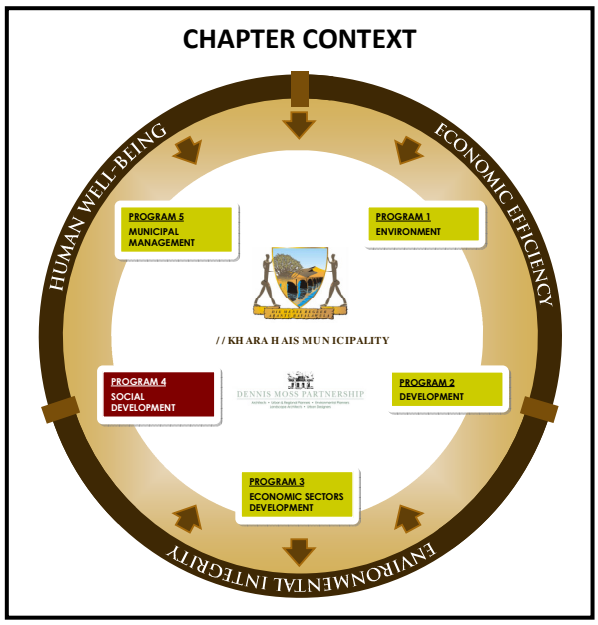
Table 13: Manufacturing Strategies.

KEY ISSUE NO. 8.2 (a) : INDUSTRIAL AREAS AND MANUFACTURING FACILITIES			
OBJECTIVE:	Ensure proper planning and development of industrial areas and manufacturing facilities.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Limit the establishment of industrial and manufacturing activities to appropriate locations (**refer to Plans 4 to 12**).	/	//KHM.
(ii)	Develop the Industrial Precinct, the IDZ Precinct and the Airport Precinct as indicated by **Plan 14**.	No. 1.1.6 No. 1.1.10	//KHM in collaboration with DTI.
(iii)	Develop SMME Incubators to cater for local community needs (**refer to Plans 4.1, 4.5, 4.6, 4.11, 5, 6, 7, 8, 11, 12, 14.4, 14.5, 14.7, 14.13, 14.20 & 14.21**).	No. 1.1.8	//KHM.
(iv)	Direct the development of appropriate stands for hawkers and community-based economic activities to the various identified *Neighbourhood Nodes*, *Activity Corridors* and *Activity Streets* (**refer to Plan 14 and Plans 14.1 – 14.21**). **(Refer to Strategies 1.1.6, 1.1.8 & 1.1.10 in //Khara Hais IDP [2007-2012]).**	/	//KHM.

KEY ISSUE NO. 8.2 (b) : EXPLORING EMERGING TECHNOLOGIES			
OBJECTIVE:	Explore alternative and emerging technologies to improve quality and quantity within the manufacturing and industrial sector.		
STRATEGY		**IDP**	**RESPONSIBLE**
No.	**Description**	**PRJ NO**	**INSTITUTION**
(i)	Research alternative / sustainable manufacturing options and emerging technologies, e.g. Concentrating Solar Power Plant (CSP).	/	Relevant organisations & companies in collaboration with //KHM.

PROGRAM 4: SOCIAL DEVELOPMENT

9 SOCIAL DEVELOPMENT



Human community requirements represent a primary element of sustainable development.

In the World Conservation Strategy, **sustainable development** is considered to be a set of tools and strategies that respond to five broad requirements, namely:

a) Integration of conservation with development.
b) Achievement of equity and justice.
c) Provision of social self-determination and cultural diversity.
d) Maintenance of ecological integrity.
e) Satisfaction of basic human needs.

Humans are generally considered as the primary disturbance factor in any environment. This implies that the people of //Khara Hais will determine the ultimate fate of the environment within which they live.

An important aspect in this regard, is that the levels of social development of the people of an area play an important role in the manner in which they settle that area, develop their facilities, and utilise the natural environment and its resources. Therefore, in order to ensure environmental sustainability, it is of paramount importance to institute (a) sustainable social development at all levels of society, and (b) equitable economic and social restructuring. This implies making significant investments in the social development of the human communities of the area. In this regard, the following age-old saying is particularly relevant, namely….*'If you plan for a year, plant a seed. If you plan for ten years, plant a tree. If you plan for hundred years, educate (develop) the people. If you plant seed once, you will harvest once. If you educate (develop) people, you will harvest a hundred crops'*. (K'UAN TZU, 551-479 BC).

Unemployment and poverty are seen as the critical issues that need to be addressed in //Khara Hais. To address the above critical issues, social development strategies should aim at improving the HDI[10] of historically disadvantaged groupings in //Khara Hais through the following:

a) <u>Building the economy:</u> Increase personal income levels, reduce unemployment, reduce inequality, reduce abject poverty.
b) <u>Developing human resources:</u> Improve literacy and educational levels.
c) <u>Providing basic needs:</u> Improve life expectancy, and enhance quality of life by providing clean drinking water, housing, primary health care, sports and recreation, social services, access to basic transport, and security.

[10] The HDI is a composite index reflecting life expectancy, education and income. This index was developed by the United Nations Development Program and provides an internationally comparable measure of people's ability to communicate, to participate in the community and to have sufficient means to afford a decent living.

According to the United Nations Human Development Report (1996) there is no automatic link between economic growth and human development. Economic growth, however, is important to create job opportunities and increased wages. In moving towards an increased level of human development, economic growth is seen as an important vehicle for achieving this goal.

Economic growth should, however, also be evaluated in the context of its potentially negative influences on the natural environment. Economic growth in //Khara Hais implies increased agricultural and industrial activities and subsequently higher consumption of natural resources. With water already a limiting factor in the certain parts of //Khara Hais, economic growth may, therefore, not be the ultimate 'vehicle' for achieving the desired goal.

Growing unemployment figures in South Africa can be interpreted as an indication that the population is growing beyond the resources of the country. When thus contemplating sustainable social development, the most important social issue that needs to be addressed, is **population growth**. Population growth needs to be brought under control to ensure sustainable development in the country as a whole (Ledger, 1996[11]). Programs to control population growth will have to bridge deep-rooted cultural notions and create a new order conforming to the requirements of the modern South Africa.

9.1 VISION

The following vision was set for social development program in //Khara Hais:

Establish an optimally developed and empowered society in harmony with its environment.

9.2 STRATEGIES

Table 14 below summarises general management strategies for community development and empowerment in //Khara Hais Municipality.

Table 14: Community Development Strategies.

KEY ISSUE NO. 9.2 (a) : HUMAN RESOURCES DEVELOPMENT			
OBJECTIVE:	Ensure the sustainable development of all the people in //Khara Hais.		
No.	**STRATEGY Description**	**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
(i)	Create opportunities for LED and economic empowerment of communities through SDI projects (refer to Chapter 12.2 below).	No. 1.1.7	//KHM, developers & communities.
(ii)	Reduce unemployment rate in the short term by implementing the Expanded Public Works Program (EPWP) to create temporary work opportunities using public sector expenditure. **(Refer to Strategy 1.1.7 in //Khara Hais IDP [2007-2012]).**	/	DTI, Small Business Development Corporation & community development associations.

[11] Ledger, J. 1996. Population: Our highest Environmental Priority. EARTHYEAR, 13th Ed.

PROGRAM 5: MUNICIPAL MANAGEMENT

CHAPTER CONTEXT

The structure of the chapters covering the *Municipal Management Program* is as follows:

Sub-Program 1: Bioregional Management

Sub-Program 2: Disaster Management

Sub-Program 3: Development Facilitation and Funding

10 MUNICIPAL GOVERNANCE IN TERMS OF BIOREGIONAL PRINCIPLES

The //Khara Hais SDF was based upon, and gives practical effect to the bioregional planning and management approach. From the perspective of promoting sustainable development and biodiversity conservation through the integration of development and conservation, it is especially important to consider regional planning and management in the context of the integrative relationship between ecological processes and the needs and perceptions of local communities. As stated in Chapter 9 of Volume 1, this integrative relationship is referred to as bioregional management in the Global Biodiversity Strategy (WRI, 1992).

As stated previously, bioregional management requires that within the ecological and social framework of a bioregion, government, community, corporate and other private interests, share responsibility for co-ordinating land-use planning, for both public and private land and for defining and implementing development options that would ensure that human needs are met in a sustainable way (WRI, 1992).

To successfully implement bioregional management, the following challenges need to be addressed (Miller, 1996):

a) Create the capacity to manage complex and integrated programs.
b) Involve stakeholders in a meaningful manner.
c) Develop and link established institutions, or if needed, create new ones.

The following guidelines are provided for the practical implementation of bioregional management through local governance in //Khara Hais Municipality (refer to the table below).

Table 15: Guidelines for municipal governance in terms of the bioregional planning and management approach.

GUIDELINE NO. 1: BUILDING CAPACITY
a) Develop the required leadership capabilities. Ideally well-respected local individuals that have leadership capabilities and who knows the community and its resources, should be tasked with municipal governance.
b) Use authority to foster co-operation. It is idealistic to expect constituents to work together as a 'tight band of well-meaning stakeholders' in the purest sense of democracy. Experience has shown that a measure of authority to provide the backbone to efforts is both needed and appreciated. An authority must ensure that minimum goals, standards and criteria are met.
c) Redistribute power over land and resources to develop authority and responsibility in the Municipality. The challenge here is to: (i) Establish incentives for local residents to take on responsibility for the management of their environment and its resources. (ii) Foster a fair sharing of benefits from the use of resources. (iii) Place the authority to protect, control and use, closer to the ground (community level).
d) Use and build upon existing capacity wherever possible. The establishment of large regional structures should be avoided and priority should be given to reinforcing local capacity and focussing on neighbourhood-specific actions.
e) Promote a thorough understanding of the value of the Municipality and its resources as a basis for its long-term sustainability. A key aspect of bioregional planning is to develop a thorough understanding of the places where we live, in the quest to develop a comprehensive and realistic common appreciation of the meaning those places have for people and to re-evaluate and improve, where possible, the criteria on which modern planning legislation and control are based. Such an understanding needs to be supported, or cultivated, because, in the long-term, it would not help to try and solve practical problems without this.
GUIDELINE NO. 2: FOSTER STAKEHOLDER PARTICIPATION
a) Leaders, planners and policy makers should get to know the stakeholders and their concerns, interests and perspectives. If too little is done to get to know and understand the Municipality's people and their needs, municipal governance will struggle.
b) Link conservation and restoration activities with socio-economic development goals. The challenge is to integrate development with conservation goals and measures.
c) Provide access to decision-making. Give local residents and communities access to decision-making processes and the skills needed to participate fully in the development and implementation of democratically-managed programs.
d) Honour all commitments that result from negotiations. It is especially important that government ensures that commitments are honoured and that such commitments do not fall prey to changing budgets, personnel departures which leave unfilled vacancies, etc.

e) Promptly implement projects that respond to community needs.

Where the implementation of a social program gives rise to specific projects, it is of decisive importance that such projects be implemented speedily.

GUIDELINE NO. 3: ESTABLISH CO-OPERATIVE ARRANGEMENTS AMONG STAKEHOLDERS

a) Establish co-operative management options with and among stakeholders.

A cardinal rule of efficient and just municipal management is that all inhabitants are to be understood and treated as partners.

b) Stimulate and promote programs of high quality, inter-disciplinary research into determinants of ecosystems and natural resources and the uses made of them by the local communities.

Provide a supportive environment for creative and innovative research or applications development in sustainable conservation, resource use and management on bioregional bases.

GUIDELINE NO. 4: ENSURE EFFECTIVE LAND USE PLANNING AND MANAGEMENT

a) Institute land use planning that will ensure a balance between the three imperatives for sustainable development, namely environmental integrity, human well-being and economic efficiency.

Undertake land use planning in terms of a set of Spatial Planning Categories such as is described in Chapter 10.1 of Volume 1.

b) Ensure that all municipal officials have an appropriate understanding of the requirements for efficient land use management.

Implement a training an education strategy that will *inter alia* ensure that the officials understand and are able to interpret and implement land use plans, design imperatives development directives such as the principles of critical regionalism described in Chapter 13.3 of Volume 1.

c) Implement an efficient performance management system through which the performance of individual municipal officials and the Municipality as a whole is to me measured.

Implement a Management by Objectives staff management approach which compensates good performance and addresses unsatisfactory performance.

d) Implement an adaptive management strategy that will embody the concept of continual improvement.

Refer to Chapter 10.1 below.

10.1 ADAPTIVE MUNICIPAL MANAGEMENT AND GOVERNANCE

Within a municipality, uncertainty (or lack of knowledge) about the status and function of ecosystems, economic systems and social systems can be addressed in an adaptive management strategy - an approach that relies on continual assessment and adjustment. Adaptive management methods at the municipal level, can contribute enormously to achieving sustainable development objectives.

It is recommended that the structure illustrated by the figure below be adopted by //Khara Hais to ensure that the planning and implementation of municipal functions are efficient and dynamic.

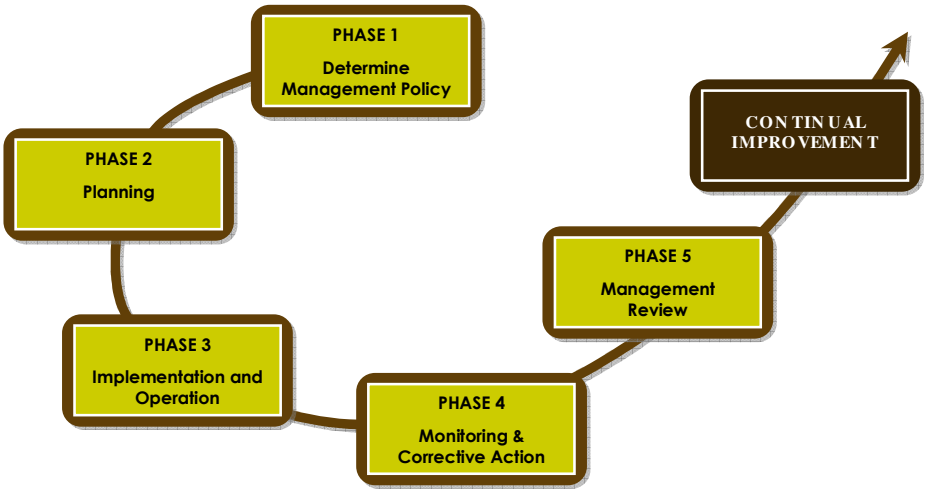


Figure 5: Proposed planning and management structure (Adapted from SABS ISO 14004:1996).

Adaptive management incorporates long-term monitoring as a mechanism to assess the success, or failure, of existing management policies in the bioregional context, and as a guide to making adjustments. Continued research is necessary to increase insights into ecological processes and management strategies.

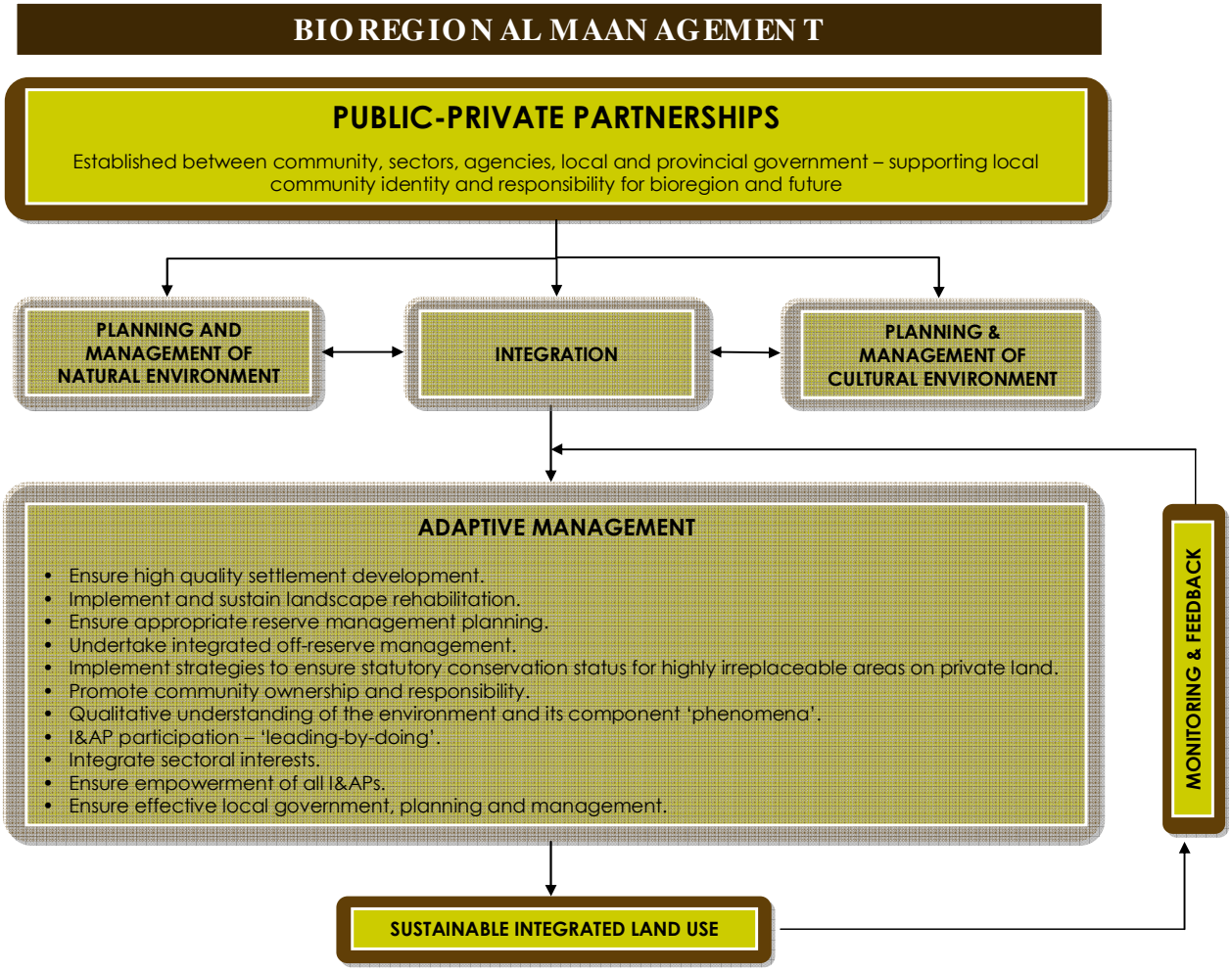


Figure 6: Adaptive planning and management.

Repeated revision of management decisions is at the core of adaptive management approaches. This provides for sustainability of resource use. Threats to resource security can be minimised if management objectives are set clearly. In addition, adaptive management will reduce the sort of pressure that stymies action because initial choices are not viewed as final choices.

The concept of **continual improvement** is embodied in adaptive municipal planning and management. Continual improvement is defined as the process of enhancing management actions to achieve improvements in overall performance (i.e. remaining dynamic). It is achieved by continually evaluating environmental performance against a set environmental, social and economic policies, objectives and targets with the purpose of identifying opportunities for improvement.

Continual improvement is dependent on effective long-term monitoring as a mechanism to assess the success or failure of existing management policies in the bioregional context, and as a guide to making adjustments.

11 DISASTER MANAGEMENT

//Khara Hais is subject to periodic disasters caused by *inter alia* drought and, in particular, flooding, which periodically occur when the Gariep River overflows its banks.

The management of disasters[12] is regulated by the Disaster Management Act 57 of 2002. The purpose of this Act is to provide for:

- an integrated and co-ordinated disaster management policy that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, emergency preparedness, rapid and effective response to disasters and post-disaster recovery;
- the establishment of national, provincial and municipal disaster management centres; and
- disaster management volunteers.

The Act stipulates the powers and duties of the various spheres of government in the event of a disaster and includes the establishment of an Intergovernmental Committee on Disaster Management, a National Disaster Management Advisory Forum and the drafting of a National Disaster Management Framework.

11.1 RESPONSIBILTIES AND OBLIGATIONS OF DISTRICT MUNICIPALITY

The management of potential disaster situations such as floods is the function of the Siyanda District Municipality. The latter must establish and implement a Disaster Management Framework aimed at ensuring an integrated and uniform approach to disaster management in its area by all entities operating in the Siyanda District, including the local municipalities, non-governmental

[12] **'Disaster'** means a progressive or sudden, widespread or localised, natural or human-caused occurrence which-
(a) causes or threatens to cause-
(i) death, injury or disease;
(ii) damage to property, infrastructure or the environment; or
(iii) disruption of the life of a community; and
(b) is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources;

institutions and the private sector. A district municipality must establish its disaster management framework after consultation with the local municipalities in its area (Section 42 of Act 57).

The Siyanda District Municipality must also establish a Disaster Management Centre after consultation with the local municipalities in its area of jurisdiction (Section 43). A municipal Disaster Management Centre (Section 44) -

a) must specialise in issues concerning disasters and disaster management in the municipal area;
b) must promote an integrated and co-ordinated approach to disaster management in the municipal area, with special emphasis on prevention and mitigation, by-
   (i) departments and other internal units within the administration of the municipality, and, in the case of a district municipality, also by departments and other internal units within the administration of the local municipalities in the area of the district municipality;
   (ii) all municipal entities operating in the municipal area; and
   (iii) other role-players involved in disaster management in the municipal area;
c) must act as a repository of, and conduit for, information concerning disasters, impending disasters and disaster management in the municipal area;
d) may act as an advisory and consultative body on issues concerning disasters and disaster management in the municipal area for-
   (i) organs of state and statutory functionaries;
   (ii) the private sector and non-governmental organisations; and
   (iii) communities and individuals;
e) must make recommendations regarding the funding of disaster management in the municipal area, and initiate and facilitate efforts to make such funding available;
f) may make recommendations to any relevant organ of state or statutory functionary –
   (i) on draft legislation affecting this Act, the national disaster management framework or any other disaster management issue;
   (ii) on the alignment of municipal legislation with Act 57, the national disaster management framework and the relevant provincial disaster management framework; or
   (iii) in the event of a local disaster, on whether a local state of disaster should be declared in terms of Section 55;
g) must promote the recruitment, training and participation of volunteers in disaster management in the municipal area;
h) must promote disaster management capacity building, training and education, including in schools, in the municipal area;
i) may promote research into all aspects of disaster management in the municipal area;
j) may give advice and guidance by disseminating information regarding disaster management in the municipal area, especially to communities that are vulnerable to disasters;
k) may exercise any powers and must perform any duties delegated and assigned to it in terms of Section 14; and
l) may assist in the implementation of legislation referred to in section 2 (1) (b) to the extent required by the administrator of such legislation and approved by the municipal council.

11.2 RESPONSIBILTIES AND OBLIGATIONS OF //KHARA HAIS MUNICIPALITY

Notwithstanding the legal obligations of the District Municipality pertaining to disaster management, the local municipalities, together with DWAF, Water Associations and landowners must contribute towards the prevention and/or management of floods in terms of the stipulations of Act 57.

In terms of Section 53 of Act 57 //Khara Hais Municipality, must, within the applicable disaster management framework–

a) prepare a disaster management plan for its area according to the circumstances prevailing in the area;
b) co-ordinate and align the implementation of its plan with those of other organs of state and institutional role-players;
c) regularly review and update its plan; and
d) through appropriate mechanisms, processes and procedures established in terms of Chapter 4 of the Local Government: Municipal Systems Act 32 of 2000, consult the local community on the preparation or amendment of its plan.

In terms of Section 53 of Act 57 a disaster management plan for //Khara Hais must –

(i) form an integral part of the municipality's IDP;
(ii) anticipate the types of disaster that are likely to occur in the municipal area and their possible effects;
(iii) place emphasis on measures that reduce the vulnerability of disaster-prone areas, communities and households;
(iv) seek to develop a system of incentives that will promote disaster management in the municipality;
(v) identify the areas, communities or households at risk;
(vi) take into account indigenous knowledge relating to disaster management;
(vii) promote disaster management research;
(viii) identify and address weaknesses in capacity to deal with possible disasters;
(ix) provide for appropriate prevention and mitigation strategies;
(x) facilitate maximum emergency preparedness; and
(xi) contain contingency plans and emergency procedures in the event of a disaster, providing for-
    - the allocation of responsibilities to the various role-players and co-ordination in the carrying out of those responsibilities;
    - prompt disaster response and relief;
    - the procurement of essential goods and services;
    - the establishment of strategic communication links;
    - the dissemination of information; and
    - other matters that may be prescribed.

In the event of a local disaster the council of the Siyanda District Municipality, acting after consultation with the relevant local municipality, is primarily responsible for the co-ordination and management thereof. The Siyanda District Municipality and //Khara Hais Municipality may however agree that the local municipality assumes primary responsibility for the co-ordination and

management of any local disaster that may occur in the jurisdictional area of //Khara Hais Municipality (Section 54 of Act 57).

11.3 STRATEGIES

Table 16 below summarises general strategies for disaster management in //Khara Hais.

Table 16: Disaster Management Strategies.

KEY ISSUE NO. 11.3 (a) : INVOLVE ALL ROLE PLAYERS			
OBJECTIVE:	Build additional capacity and responsibility through the involvement of the broad public and role players.		
STRATEGY		**IDP PRJ NO**	**RESPONSIBLE INSTITUTION**
No.	**Description**		
(i)	Draft and implement a Disaster Management Framework.	/	SDM in collaboration with local municipalities.
(ii)	Establish a municipal Disaster Management Centre.	/	SDM.
(iii)	Prepare a Disaster Management Plan for //Khara Hais as part of its IDP.	/	//KHM.

12 DEVELOPMENT FACILITATION AND FUNDING

In terms of the Municipal Systems Act, municipalities have a development role. However, in practice, most municipalities are finding it difficult to perform this new function efficiently, as it has never been part of their original core functions. In addition, there is a paradigm shift in the country towards integrated, well-managed economic development through key partnerships and delivery-orientated programs.

It is suggested that development facilitation and funding be based upon the *Sustainable Development Initiative* (SDI) approach which is premised on effective public-private-community partnerships and which capitalises on the efficient use of resources, through development, for the benefit of the developer, affected local communities and the environment. SDIs should be undertaken in close collaboration with the LED Forum and be supportive of LED objectives. Key aspects of the SDI approach as it is proposed for //Khara Hais are as follows:

12.1 PROJECT-BASED SUSTAINABLE DEVELOPMENT INITIATIVE (SDI) APPROACH

The SDI approach is to be adopted for all large-scale property developments and it may be imposed by the Municipality as a condition of approval for such developments. An SDI is broadly defined as *an over-arching socio-economic development and environmental rehabilitation initiative that is enabled and supported by large-scale property development*.

The SDI approach is a strategy to give practical effect to legislation, policy, protocols and agendas aimed at promoting sustainable development. An SDI is always undertaken in partnership with

local communities and others that can help to promote sustainable development in a manner consistent with government policy. In this regard, government and others support many programs and projects which promote public-private-community partnerships and aim to engage a wide spectrum of role players in the planning and development process. The SDI approach responds to the responsibility of private sector investors in property development to help enhance and give effect to such programs and projects. The Melkstroom SDI is a good example of a public-private-community partnership that is resulting in meaningful benefit for all concerned. This SDI is to be applied by all prospective developers as a sustainable development planning and implementation model.

12.1.1 OBJECTIVES OF THE SDI APPROACH

The over-arching objective of the SDI approach is to promote sustainable development as is defined in Section F of Volume 1. This is to be achieved through the following:

a) Ensuring that large-scale development contributes, in a sustainable manner, to socio-economic growth and environmental rehabilitation, as such, giving effect to relevant national, provincial and local policy and goals.
a) Building upon and promoting the comparative economic advantages[13] of the area within which the SDI is undertaken.
b) Unlocking the latent value of the land available for the core projects of the SDI.
c) Utilizing the natural resource base in a sustainable manner.
d) Merging ecological and economic considerations in decision-making.
e) Making a meaningful contribution to the eradication of poverty and inequality.
f) Ensuring an acceptable return on capital invested by the core project investors.
g) Ensuring that local communities, especially those who had been disadvantaged by historic injustices, are recognised as stakeholders in the planning and development process.

12.1.2 'PILLARS' OF THE SDI APPROACH

The SDI approach builds on three pillars, namely:

Pillar 1: Development as Primary Economic Driver

Property development can serve as a primary economic driver that unlocks funds to support, in a meaningful and sustainable manner, economic growth, social development, and environmental rehabilitation. Development can only be optimised through positive economic intervention within a framework of an integrated development plan and strategy**.**

In order to optimise the potential of property development to serve as an economic driver, the SDI approach builds upon the principle that an SDI, for any given area, must be supported by core projects, which utilise and promote the comparative economic advantages of the region or the area within which the SDI is undertaken.

Pillar 2: Community Participation, Inclusivity, and Human Well-Being

[13] Case & Fair (1999) defines comparative economic advantage *as the advantage in production of a product enjoyed by one place over another when that product can be produced at a lower cost in terms of other goods than it could be produced by another place or country*.

The SDI approach builds on the principle of inclusivity. This implies that the planning, implementation and management of an area should be an ongoing inclusive process that gives meaningful consideration to the changing and dynamic interests, needs and values of the people that live in the area and that have an interest in ensuring a prosperous future for the area. In this regard, it is important that the following should result from an SDI:

a) Continuing participation, representation and involvement of all stakeholders in the SDI.
b) Creation of adequate and appropriate opportunities during the SDI planning, and thereafter, for community participation in decisions that may affect the area.
c) Consideration of, and agreement on, the values which would form the basis of the SDI and the associated core projects.
d) Developing and utilising the skills and capacities of the people living in the area (especially previously disadvantaged people, and women) in the planning and implementation of the SDI and the core projects.
e) Encouraging on-going involvement of local people in the programs identified for the SDI.
f) Recognising that historic injustices need to be addressed in a practical and sustainable manner as a matter of high priority. In particular, recognition needs to be given to the rights of local previously disadvantaged people to share in the benefits that development brings to the area in a spirit of partnership.

The SDI approach provides for the participation and involvement of local communities in the planning, implementation and management of the initiative through an appropriate organisational structure such as is described below. Participation in the SDI by stakeholders, who purchase property in the core projects, or who may have a direct interest in the core projects, should be formalised through a *Participation Agreement.*

Pillar 3: Environmental Rehabilitation and Conservation

The IISD (1995) highlights two key aspects pertaining to sustainable development, namely the concept of need (in particular, the essential needs of the poor, to which overriding priority should be given) and the environment's ability to meet present and future needs. The latter aspect should be considered in context of the reality of the current state of the environment and the limitations posed by the general lack of funds and resources to rehabilitate and conserve the natural environment to the extent that it can indeed meet present and future needs.

The SDI approach recognises and supports the principle that biodiversity conservation is a prerequisite for sustainable development. It accepts that, for biodiversity conservation to succeed, the maintenance of environmental integrity (as defined by ecological, economic and social criteria) must be one of the primary determinants of land-use planning and development.

12.1.3 CORE PROJECTS AS ECONOMIC DRIVERS OF THE SDI

Effect is given to an SDI by core projects primarily funded by the private sector. The core projects serve as the primary economic driver(s) of the SDI (refer to the figure below).

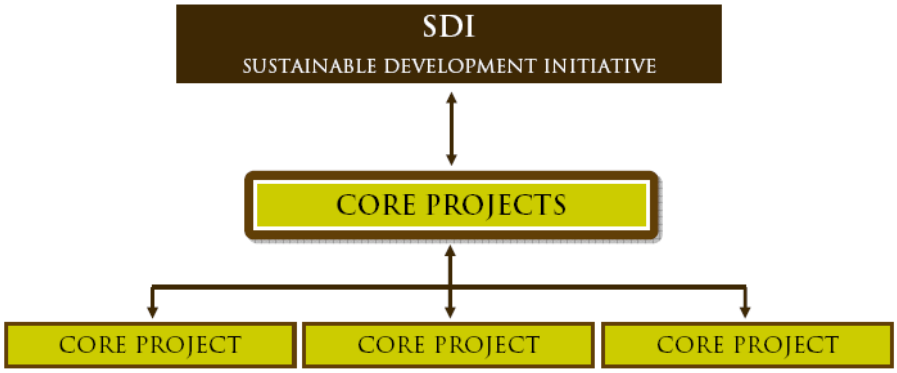


Figure 7: An SDI and its core projects.

The possible development projects listed in Chapter 4.2.1 could be core projects of a singular SDI for Upington. Development projects in the rural areas of //Khara Hais could be the drivers of other SDIs, depending on the scale and nature of such projects.

12.1.4 SUGGESTED ORGANISATIONAL STRUCTURE FOR AN SDI

In order to facilitate the establishment, implementation and management of an SDI, an organisational structure has to be established. In this regard, it is proposed that a Treasury Trust be established as an overarching and governing entity, and that a structure of *Public Benefit Organisations* (PBOs), or other appropriate organizational entities, be established to implement specific projects through programs to be identified by the relevant communities (refer to the figure below).

The main purpose of the Treasury Trust is to serve as the funder and principal decision-maker that ensures that funds flow to the various PBOs, and that the programs of the SDI are appropriately implemented, managed and co-ordinated. The Treasury Trust should also ensure that benefits devolve to the various beneficiaries and stakeholders in a transparent manner and in a spirit of partnership. The Treasury Trust will therefore operate under strict financial and audit supervision.

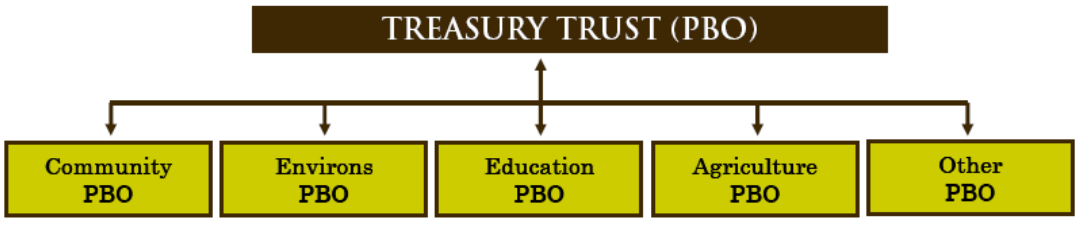


Figure 8: Suggested SDI organisational structure.

12.1.5 FUNDING OF THE TREASURY TRUST

The SDI approach is based on the principle that a percentage of the revenue upon the transfer of developed properties accrues to the Treasury Trust. These funds could be supplemented by other forms of funding, including state and NGO funding.

Both the quantum of the funds to be transferred to the Treasury Trust and the transfer procedure are to be stipulated in the sales agreements and are to be linked to the title deed of each erf or property sold.

12.1.6 BENEFICIARIES OF THE TREASURY TRUST

The PBOs, or other entities, that form part of the organisational structure would be the primary beneficiaries of the Treasury Trust. These entities are to be established in close collaboration with the relevant stakeholders, the objective being to ensure that benefits are delivered to the rightful beneficiaries and that such benefits are managed in a transparent and equitable manner. The highest concentration of direct benefits will accrue to the people living in closest proximity to the core projects.

The number of formal PBOs of a Treasury Trust may differ. Such matters are to be considered against the background of the circumstances that apply in the relevant SDI (e.g. the scale of the core projects). The various PBOs that receive funds from the Treasury Trust will have the responsibility to ensure that the programs of the SDI are implemented in accordance with defined objectives and strategies.

12.1.7 PROCEDURES FOR ALLOCATION OF FUNDS

Discretionary funds may be made available for humanitarian purposes. However, the main purpose of the Treasury Trust is to make funds available to help grow the local economy through the establishment of new enterprises, and to help promote environmental conservation in a manner consistent with the ethos of sustainability. A primary objective of the Treasury Trust is to help establish SMMEs and support Black Economic Empowerment (BEE) in terms of government policy through the PBO structures created for this purpose. Such SMME development will be supported by mentorship programs, skills training and stewardships.

It is important for the Treasury Trust and the PBOs to seek the support of *inter alia* the Development Bank of Southern Africa (DBSA), Department of Trade and Industry (DTI), Industrial Development Corporation (IDC), etc. to promote programs that are of common interest and to jointly provide project finance on a partnership basis. It is furthermore important to invite commercial banks to, in partnership with the PBOs, grant loan finance to newly-established SMMEs, assist with due diligence studies, facilitate the preparation of business plans, and ensure that good practice pertaining to corporate governance and the granting and repayment of loan finance is adopted and maintained. Annexure 1 provides an inventory of possible sources that could assist with the funding of an SDI Treasury Trust.

12.1.8 SDI IMPLEMENTATION PROGRAMS

Implementation of the SDI should take place through integrated programs identified by stakeholders. As stated previously, the various PBOs should assist with the funding, management and implementation of the programs which they are responsible for. SDI programs could include *land development*, *agriculture*, *tourism and hospitality*, *sport and recreation*, *social development*, *environmental management, heritage conservation* and *education*. For each program clear objectives should be set and strategies for implementation should be formulated by the PBOs in partnership with the local communities. Such strategies should include business plans and funding requirements. Annexure 2 provides a more detailed summary of the project-based SDI approach.

TOWARDS IMPLEMENTATION OF THE //KHARA HAIS SDF

13 IMPLEMENTATION REQUIREMENTS

//Khara Hais Municipality sees this SDF as the first step towards the implementation of holistic and integrated regional planning and management throughout //Khara Hais. In this regard, the Municipality believes that the SDF will promote the ideals of sustainable development through the strategies and programs proposed in the document. It is recognised that the SDF is by no means completed or final. However, it presents the opportunity for all stakeholders to assist with the preparation of a model development and management framework which will, over time, ensure a sustainable future for all the people of //Khara Hais.

The Municipality recognises that the SDF is not the solution in itself and that its ultimate success will depend on a range of factors, in particular, the following:

13.1 STAKEHOLDER INVOLVEMENT AND EMPOWERMENT

This SDF addresses the challenge to create *places* where the people of //Khara Hais can live with dignity and pride and to manage these places in a manner, which would ensure long-term environmental sustainability. In this regard, the IDP and the SDF should be an expression of the wishes of the people of //Khara Hais in respect of what kind of places they want to live in and what kind of future they are aspiring for.

In order to achieve this, the involvement and co-operation of all stakeholders is of fundamental importance, as they are essentially the '*custodians*' of their environment(s). An imperative in this regard is to enable all stakeholders to participate meaningfully in the planning and management of the areas where they live.

Furthermore, the effective implementation of this document depends on an understanding and appreciation of the need for integrated forward planning and integrated environmental management. *'Ignorance and inadequate knowledge'* were identified as fundamental key issues that influence the involvement and co-operation of stakeholders. In order to promote an appropriate understanding of the environment as our 'home' the following strategies are proposed:

a) All future SDFs or other similar planning frameworks prepared for //Khara Hais must recognise the need to develop this understanding.
b) //Khara Hais Muncipality, in collaboration with the Siyanda District Municipality, must facilitate the provision of quality spatial data and interpretation to land managers to assist decision-making and adaptive management, and make regional natural resource information and knowledge widely available or accessible.
c) Implement and sustain education programs pertaining to the delicate relationships between places (environments) and their inhabitants, focussing on the responsibilities of the inhabitants regarding the protection of the ability of such places to sustain life.
d) Encourage education institutions to incorporate appropriate environmental studies into school curricula.

e) Develop and conduct compulsory environmental courses for all municipal officials that are involved with land-use management and development.
f) Develop a system of values and increase recognition and understanding of the above. Promote recognition of these values in all decision-making pertaining to land-use and land management.

13.2 COLLABORATION AND CO-OPERATION

A key function of //Khara Hais Municipality is to undertake and sustain a program to explain the intentions and application of this SDF to all stakeholders, and facilitate the implementation of the proposals and recommendations put forward in this document.

As stated previously, //Khara Hais has adopted bioregional planning and management as a basis for the implementation of this SDF, which implies that….'g*overnment and communities, corporate and individual interests share responsibility for co-ordinating land-use planning and for defining and implementing development options that will ensure that human needs are met in a sustainable way. This necessitates innovative forms of institutional integration and social co-operation, dialogue amongst all interested parties, participatory planning and institutional flexibility'.*

The implementation of //Khara Hais SDF lies in the responsibility sphere of a number of institutions, from the national level, through to the local level. Cross-sectoral and cross-institutional co-operation is crucial, given that the identified key issues are of relevance to virtually every government and non-government institution.

A key objective of this SDF is to ensure effective environmental planning and management of //Khara Hais. Environmental legislation supports integrated management of an area, with the primary objectives being the prevention of environmental degradation and the rehabilitation of existing environmental damage. In this regard, inter-institutional co-ordination and integration of environmental management functions is necessary in making and implementing policy, and to achieve integrated and holistic environmental management.

13.2.1 STATE DEPARTMENTS

Government departments are required to comply with the policies and strategies put forward in this SDF and to maintain effective administration of their respective spheres of responsibility. Institutional commitment to achieve effective administration and implementation is imperative. In this regard, reference is made *inter alia* to the allocation of adequate budgets as a primary requirement.

13.2.2 NON-GOVERNMENTAL ORGANISATIONS

An important requirement is that the actions of NGOs pertaining to the conservation of the natural environment, as well as any community programs, be properly co-ordinated and channelled, or connected, to the IDP process as the statutory vehicle for the implementation of such initiatives.

All actions in this regard, are subject to the approval, or endorsement, of the Municipality and are to be undertaken in close collaboration with the latter. In this regard, it is important that NGOs make full use of this document as the framework for the implementation of their strategies and action plans and that such strategies and action plans are implemented in accordance with the bioregional planning and management approach described in this document.

13.2.3 COMMUNITIES

As stated previously, the involvement of the people of //Khara Hais is key requirement for the implementation of the SDF. The communities are *inter alia* required to develop and entrench a set of agreed-upon values and environmental ethics, and to facilitate the proposed implementation of the strategies proposed in this document 'on the ground'.

In order to enable the communities to contribute constructively in this regard, it is imperative that they be empowered appropriately and that the structures be created that would encourage enthusiastic participation

13.3 RESEARCH AND MONITORING

It is important that this document be periodically updated in accordance with new information, improving technology and changing human and environmental needs. It is therefore necessary that need-driven research and constant monitoring be undertaken in a coherent manner.

In this regard, the research undertaken by, *inter alia*, conservation agencies and government departments is of utmost importance. It is imperative that existing and future research projects be effectively co-ordinated in order to prevent duplication and address the identified research requirements of //Khara Hais.

A further key requirement, is that thorough research and/or surveys be undertaken in order to give substance to the principles of critical regionalism that are to provide a framework for any urban and rural development undertaken throughout //Khara Hais (refer to Chapter 13 of Volume 1). All stakeholders, in particular the relevant municipal officials, will be required to understand the principles of critical regionalism and play a creative role in facilitating the restoration of the existing human-made environment and the development of high quality places in accordance with these principles. In this regard, //Khara Hais Municipality will show the way by developing institutional capacity to apply the principles of critical regionalism.

DENNIS MOSS PARTNERSHIP
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